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## ABSTRACT

Presented are listings of solar-related courses, programs, and curricula at about 700 post-secondary institutions nationwide. Included under each institutional entry are separate listings of courses on programs. Each course on program description includes: (1) the instructor and his telephone number; (2) course number; (3) department responsible for the course, program or curriculum; (4) credits; (5) student level; (6) duration; (7) contact hours by class and laboratory time; (8) principal topics covered; (9) number of times taught; and (10) average enrollment. (HE)

\*\*\*\*\*  
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# National Solar Energy Education Directory

**First Edition**

In cooperation with the office of  
U.S. Congressman George E. Brown, Jr.,  
John Kimball, Staff Assistant, and  
the Congressional Solar Coalition

Prepared by

George Corcoleotes  
Katherine Kramer  
Kevin O'Connor  
Jo Ann Silversmith

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UC CATEGORY: UC-13

NATIONAL SOLAR ENERGY EDUCATION DIRECTORY  
FIRST EDITION  
JANUARY 1979

IN COOPERATION WITH THE OFFICE OF  
U.S. CONGRESSMAN GEORGE E. BROWN, JR.,  
JOHN KIMBALL, STAFF ASSISTANT,  
AND THE  
CONGRESSIONAL SOLAR COALITION

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1536 Cole Boulevard  
Golden, Colorado 80401

A Division of Midwest Research Institute

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U.S. Department of Energy  
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PRODUCED FROM THE  
SOLAR ENERGY INFORMATION DATA BANK



## ACKNOWLEDGEMENTS

The preparation of this report was accomplished by a combined effort of many people. In the Academic Programs Branch, Kevin O'Connell had overall project management responsibility and served as the contact person with John Kimball who coordinated the survey effort from U.S. Congressman Brown's Office. George Corcoran, Academic Programs, had overall responsibility for data collection. He was responsible for receiving, reviewing and editing the survey returns.

Jo Ann Silversmith, Katherine Kramer, SPIRES consultants, and the staff of the Database Systems Branch designed and built the computerized database, supervised the data input, and provided technical assistance.

## FOREWORD

The production of the "1978-79 National Solar Energy Education Directory" (NSEED) represents the culmination of a project initiated in June of 1978. At the Solar Energy Research Institute (SERI), a need for an Educational Data Base (EDB) has been established. The created EDB becomes part of the Congressionally-mandated Solar Energy Information Data Bank (SEIDB).

SERI, having learned from John Kimball of the Office of U.S. Congressman George E. Brown, Jr., that they were planning a National survey of post-secondary educational institutions, agreed to become the survey information processing agent for the sponsoring organizations - Congressman Brown's Office and the Congressional Solar Coalition. Approximately 8,000 surveys were mailed to some 3,200 educational institutions in July of 1978. This Directory, along with information from other noted sources, represents information placed in the data base as of December, 1978.

We hope you find the Directory useful. We will appreciate your brief evaluation of the Directory by returning the User Evaluation Sheet on page xviii of the Directory.

# 1978-79 NATIONAL SOLAR ENERGY EDUCATION DIRECTORY

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## USE AND INTERPRETATION OF THIS DIRECTORY

**IMPORTANT NOTICE:** Several important points need to be understood by the user of this Directory. The information contained in the Directory is derived from responses to a national survey of all post-secondary educational institutions. Its completeness is based on those responses and the secondary sources utilized as noted on page ix. The accuracy and reliability of the information is based on those responses and, in some cases, our best judgement on data interpretation. This is a first effort. While we feel the information should be useful to many, we know the next Directory will be more complete and accurate. Should individuals desire additional information relative to activities of particular institutions, they should call or write the institutions.

**DIRECTORY ORGANIZATION:** The organization of the directory lists institutions alphabetically by institution type within state. A complete alphabetical index of institutions is found in the back of the Directory along with a cross reference to program and curriculum titles. Within each institution, programs and curricula offered, if any, are listed following the institution name, ID number (found in parentheses to the right of the institution name), address and phone number. All solar-related courses are then listed alphabetically by course title. If a course is offered within a program or curriculum, the program or curriculum name with which it is associated is printed.

Institution names and addresses for mailing labels and for creating the initial computerized data base were obtained from the National Center for Education Statistics. Approximately 8,000 surveys were mailed to some 3,200 educational institutions. Of these, some 2,100 institutions responded. Over 600 institutions indicated offering at least one solar-related course. Over 125 educational institutions indicated offering a program or curriculum. By combining the survey responses with secondary sources of information (courses, programs, or curricula marked by an "\*\*") the Directory contains entries for nearly 700 institutions.

**EDITING NOTES:** In the compilation of the directory of post-secondary educational institutions offering solar-related courses, programs and curricula, every reasonable effort

was made to obtain accurate and reliable information. Both phone calls and follow-up mail requests were used to gather additional information where necessary. Where information was difficult to interpret, and contact was not made with the respondent, a best judgement of the data submitted was entered into the file. Every survey instrument was read, coded and edited. In order to conform with character limitations in certain fields, some responses were abbreviated.

Specific data element responses were examined for consistency with other data elements, e.g. Did the total contact hour field represent the sum of the subfields of contact hours? In some cases, interpretations were made relative to the program/curriculum classification (page xii defines program and curriculum). The most common judgements which were made concerned the question of solar-related courses. With a slight stretch of interpretation, an institution could develop a long list of "solar-related" courses. Hence, some courses submitted which appeared only remotely related to solar were not included in the directory. In future updates, a solar-related course is defined as one in which at least one-third of the contact hours are spent teaching direct solar-related topics.

Probably the most difficult question to interpret on the survey was question 11 on the first page of the survey (see page xiii). The question reads: "Students completing the Program/Curriculum would generally be classified as...". While the attempt of this question was to elicit responses relative to the expertise obtained by the students as a result of completing the program or curriculum, the responses very often reflected the kinds of students involved in the program or curriculum. Therefore, in the Directory we have named the responses to the question with the heading "Students Taking or Completing Offering".

Institutions which only had planned courses, programs, or curricula were not included in the Directory. Relative to course topic information, only those topics taught extensively were listed in the course details.

**DIRECTORY UPDATE:** As the Directory is used, data errors and omissions will be noted. If errors in the reported records are found, the pages may be copied and returned to SERI with corrections noted. If additional

programs, courses, and/or curricula should be included, the survey form on pages xiii - xv may be copied and completed. Return changes, additions, or deletions to:

---

Solar Energy Education Data Base  
Attn: George Corcoleotes  
Solar Energy Research Institute  
1536 Cole Boulevard  
Golden, Colorado 80401

For questions concerning updates call SERI at (303) 231-1831.



## SECONDARY SOURCES UTILIZED

In addition to the responses received from the initial survey, several sources of information were utilized to make the data base more complete. Each entry derived from secondary sources has been "starred" (\*) to call attention to the user that the information provided for that institution has been derived from a source other than the primary survey.

Institutions and organizations which appear in the Directory as having information supplied from secondary sources are encouraged to submit complete information on their educational offerings by completing a copy of the Survey Response Form found on pages xiii - xv.

Following is a list of secondary sources utilized in the compilation of the Directory:

1. Alternative Sources of Energy, Nos. 21 & 31, Rt. 2, Milaca, MN 56353.
2. California Educational Opportunities for Solar Energy and Energy Conservation at Institutions of Higher Education. U.S. Congressman George E. Brown, Jr., 2342 House Office Building, Washington, D.C. 20515.
3. Colleges and Universities with Solar-Related Courses, Mid-American Solar Energy Complex, 1256 Trapp Road, Eagan, MN 55121.
4. HUD Solar Status--A Special Report, September 1978, U.S. Department of Housing and Urban Development, Washington, D.C. 20410.
5. Illinois Solar Energy Education Program Directory, 1977-79, University of Illinois, Urbana, Illinois 61801.
6. National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, MD 20850.
7. Report from California, California Community Colleges, November 2, 1978, Barbara S. Pratt, California Community Colleges, 1238 "S" Street, Sacramento, CA 95814.

8. Solar Action Office, One Ashburton Place, Boston,  
MA 02108.

9. Solar Energy Source Book, Christopher W. Martz,  
Solar Energy Institute of America, 1110 6th  
Street, NW, Washington, D.C. 20001.

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2342 HOUSE OFFICE BUILDING  
WASHINGTON, D.C. 20515  
(202) 225-6161

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**Congress of the United States**  
**House of Representatives**  
Washington, D.C. 20515

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CALIFORNIA

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SAN BERNARDINO, CALIFORNIA 92402  
(714) 825-2472

☐ MISSION INN ROTUNDA  
3616 MAIN STREET, SUITE 500  
P.O. BOX 71  
RIVERSIDE, CALIFORNIA 92502  
(714) 686-8863

☐ WASHINGTON OFFICE

**FIRST NATIONAL SOLAR ENERGY EDUCATION SURVEY**

July, 1978

TO: Presidents of Educational Institutions, Institute Heads, Deans and Department Directors offering Educational Programs in Solar Energy

FROM: U.S. Rep. George E. Brown, Jr.  
U.S. Rep. James M. Jeffords  
U.S. Rep. James J. Blanchard

U.S. Senator Charles H. Percy  
U.S. Senator Thomas J. McIntyre

The Congressional Solar Coalition is interested in your participation in a cooperative effort to create a data base of all solar energy-related programs and courses currently being offered by our nation's post-secondary educational institutions.

Two organizations have agreed to work with the collected information. The Solar Energy Research Institute (SERI) in Golden, Colorado will have responsibility for the creation of a computerized data base which will become part of the legislatively mandated Solar Energy Information Data Bank (SEIDB). SERI's Information Systems Branch will receive the survey returns, edit and process the data into a computerized data base, and create the appropriate retrieval, reporting, updating, and analysis mechanisms. The compilation of collected material will be made available in a published Solar Energy Educational Directory. As an interim measure, before the computerized data base at SERI is fully operational, the National Solar Heating and Cooling Information Center (NSHCIC) will have the capability of providing a listing of solar educational offerings on a state-by-state basis free of charge to anyone by calling their toll-free number: (800) 523-2929.

The suggested deadline for returning the survey is September 15, 1978. For the purpose of this survey, wind, biomass conversion, and ocean thermal energy conversion should also be considered as solar technologies. New courses, curricula, and updates will be accepted any time following the September 15th date. However, this is not preferred. Even if you do not offer solar courses, please complete and return the first page of the form.

We appreciate your participation and, for your help, the Solar Energy Research Institute will be sending you a listing of the programs in your state. We hope you will be able to use the compiled information for your own course and/or curriculum development.

We would also like to use this opportunity to make sure that you are aware of the Higher Education Act Amendments of 1976. Of particular importance is an amendment introduced by Sen. Thomas J. McIntyre, (N.H.), that allows Federal Funds to be used for solar education programs in post-secondary vocational education schools. You might want to investigate your own possible uses of federal funds for the development of new or additional solar energy curricula.

THIS STATIONERY PRINTED ON PAPER MADE WITH RECYCLED FIBERS

## **Solar Energy Educational Survey Instructions**

If your institution is not offering any solar related programs, please complete only the first page of the survey, so indicating. If solar offerings are made by your institution, we would be happy to receive any additional information which you feel would be helpful.

The three-page survey form is designed to elicit information on solar-related programs, courses, and/or curricula currently being offered or planned to be offered by educational institutions. Your assistance in making the form entries as complete as possible will be greatly appreciated. There are two sections to be completed: (1) Educational Institutions and (2) Course Information (2 pages). Some detailed instructions may help in answering certain questions. Note that for the purpose of this survey wind, biomass conversion, and ocean thermal energy conversion should also be considered as solar technologies.

### **I. Educational Institutions**

- Q. 4. If your institution offers or plans to offer a solar curriculum or program, answer "yes" to question 4 and complete questions 5 through 12 for each curriculum or program offered or planned. Duplicate the form if necessary.
- Q. 5-12. In questions 5 through 12, information relative to solar curricula and programs is requested, as distinguished from single course offerings. A curriculum is a set of integrated courses leading toward a degree or certificate. A program is loosely defined as a formal academic experience usually combining course-work and research in applied solar technology, but not necessarily leading to a degree in solar expertise. Specialized summer programs and research institutes are examples. The answer to Q. 8, Head of Prog./Curr., should be the main contact person for someone desiring more information about the program or curriculum. Question 12 estimates the proportion of students successfully placed in solar-related jobs.
- Q. 13-14. Please answer question 14, regardless of the answer given in question 13. If your institution is presently offering solar courses ("Yes" to question 13), it may also be developing additional courses.

### **II. Course Information**

Please complete the Course Information Section (2 pages) for each separate, solar-related course, either presently offered or planned to be offered. Duplicate the Course Information Section if necessary to cover all solar courses offered. Any questions you may have concerning the survey form may be answered by George Corcoleotes at SERI (303) 231-1831 or Kevin O'Connor 231-1825.

SERI, Academic Programs  
Attn: George Corcoleotes  
1536 Cole Boulevard  
Golden, Colorado 80401

**Thank you very much for your participation.**



## I. Educational Data Base — Educational Institutions

1. Institution Name \_\_\_\_\_
2. Address: \_\_\_\_\_  
Street City State Zip
3. Institution Type  
☐ 4 Yr. Coll./Univ./Grad. School ☐ Vocational/Technical School  
☐ Community/Junior College ☐ Other (describe) \_\_\_\_\_
4. Does your institution offer/plan a Solar Curriculum or Program? Yes ☐ No ☐  
If "No", go to Question 13

Please complete Questions 5-12 for each solar energy Curriculum or Program offered or planned. If more than one Program/Curriculum is offered/planned please make copies of this section and attach

5. Is the offering a Program? ☐ Currently Offered? ☐ or Planned? ☐  
or Curriculum? ☐ Currently Offered? ☐ or Planned? ☐
6. Program/Curriculum Name \_\_\_\_\_
7. College/Dept. offering Program/Curriculum \_\_\_\_\_
8. Head of Prog./Curr. \_\_\_\_\_ Phone: ( ) \_\_\_\_\_
9. What Degree/Title/Certificate, if any, does graduating student receive?  
☐ Ph.D. ☐ MA ☐ MS ☐ BA ☐ BS ☐ Associate Degree ☐ None  
☐ Other (specify) \_\_\_\_\_
10. Name of Degree/Title/Certificate \_\_\_\_\_
11. Students completing Program/Curriculum would generally be classified as (check as many as apply)  
☐ Architect ☐ Solar System Installer  
☐ Educator ☐ Residential  
☐ Researcher ☐ Industrial/Commercial  
☐ Solar Engineer ☐ Solar Technician — one trained in instrumentation, controls, design, maintenance, etc.  
☐ Mech./Elec. Contractor ☐ Person specializing in solar from one of the following trades/skills  
☐ General Contractor — ☐ Electrical ☐ Plumbing ☐ Sheet Metal  
Specializing in solar design/installation ☐ Other (specify) \_\_\_\_\_  
☐ Do-it-yourself/Homeowner ☐ Other (specify) \_\_\_\_\_
12. Estimate what percentage of graduates of the above Prog./Curr. enters the job market in the field for which they are specifically trained \_\_\_\_\_%
13. Is your institution presently offering solar courses? Yes ☐ No ☐
14. Are any (additional) solar courses being developed? Yes ☐ No ☐

**For all courses, existing or planned, please complete the 2-page Course Information Section. Make extra copies of the section if needed. If no solar-related courses are offered or planned, complete this page only and return.**

Thank you very much.

## II. Educational Data Base — Course Information

1. Name of Institution \_\_\_\_\_
2. Course Title \_\_\_\_\_
3. Course Number \_\_\_\_\_ 4. Is Course Currently Offered? ☐ Or Planned? ☐
5. Course Instructor/Contact \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_
6. College/Dept. Offering Course \_\_\_\_\_
7. Is Course also taught in conjunction with other Colleges/Depts? Yes ☐ No ☐
8. Most of the students in course are from what Colleges/Depts? (Please List)  
 a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_  
 d. \_\_\_\_\_ e. \_\_\_\_\_ f. Don't Know ☐
9. Number of Times Course Taught to Date \_\_\_\_\_ 10. Average Enrollment \_\_\_\_\_
11. Number of Students Completing Course  
 1973 or earlier \_\_\_\_\_ 1974 \_\_\_\_\_ 1975 \_\_\_\_\_ 1976 \_\_\_\_\_  
 1977 \_\_\_\_\_ 1978 (est) \_\_\_\_\_ 1979 (est) \_\_\_\_\_
12. Is Course Offered for Academic Credit? Yes ☐ No ☐ 13. # Credit Hours \_\_\_\_\_
14. Typical Academic Level of Student Taking Course: All Levels ☐  
 High School Grad. ☐ Fresh/Soph ☐ Jr/Sr ☐ College Grad ☐ Postdoctoral ☐
15. Duration of Course (# of Weeks \_\_\_\_\_ Hrs/Week \_\_\_\_\_) OR (# of Days \_\_\_\_\_ Hrs/Day \_\_\_\_\_)
16. Contact Hours Total \_\_\_\_\_ Classroom Lecture \_\_\_\_\_ Laboratory \_\_\_\_\_  
 On-the-job-training \_\_\_\_\_ Other \_\_\_\_\_ (Specify) \_\_\_\_\_
17. To what extent are the following topics covered in your course? Check only those that apply. Please specify topics not listed, but included in the course.

Extensively	Somewhat	Course Topics
<input type="checkbox"/>	<input type="checkbox"/>	1 Alternate Energy Sources
<input type="checkbox"/>	<input type="checkbox"/>	2 Appropriate Technology
<input type="checkbox"/>	<input type="checkbox"/>	3 Biomass Conversion
<input type="checkbox"/>	<input type="checkbox"/>	4 Energy Conservation
<input type="checkbox"/>	<input type="checkbox"/>	5 Energy Conversion
<input type="checkbox"/>	<input type="checkbox"/>	6 Energy Storage
<input type="checkbox"/>	<input type="checkbox"/>	7 Heat and Energy Transfer
<input type="checkbox"/>	<input type="checkbox"/>	8 Intro. to Solar Energy
<input type="checkbox"/>	<input type="checkbox"/>	9 Marketing/Market Analysis
<input type="checkbox"/>	<input type="checkbox"/>	10 Materials Research
<input type="checkbox"/>	<input type="checkbox"/>	11 Passive Solar Technology
<input type="checkbox"/>	<input type="checkbox"/>	12 Photovoltaics
<input type="checkbox"/>	<input type="checkbox"/>	13 Plumbing Techniques
<input type="checkbox"/>	<input type="checkbox"/>	14 Solar Energy Policy Development
<input type="checkbox"/>	<input type="checkbox"/>	15 Sheet Metal Techniques
<input type="checkbox"/>	<input type="checkbox"/>	16 Solar System Components
<input type="checkbox"/>	<input type="checkbox"/>	17 Solar/Economics
<input type="checkbox"/>	<input type="checkbox"/>	18 Solar Home Construction
<input type="checkbox"/>	<input type="checkbox"/>	19 Solar Law/Legislation
<input type="checkbox"/>	<input type="checkbox"/>	20 Solar Collector Evaluation/Design

Extensively	Somewhat	Course Topics
<input type="checkbox"/>	<input type="checkbox"/>	21 Solar Systems Design
<input type="checkbox"/>	<input type="checkbox"/>	22 Solar Systems Installation
<input type="checkbox"/>	<input type="checkbox"/>	23 Solar Systems Maintenance
<input type="checkbox"/>	<input type="checkbox"/>	24 Solar Systems Testing and Evaluation
		<u>Solar Applications</u>
<input type="checkbox"/>	<input type="checkbox"/>	25 Domestic Hot Water
<input type="checkbox"/>	<input type="checkbox"/>	26 Swimming Pool Heating
<input type="checkbox"/>	<input type="checkbox"/>	27 Elec'l Generation, Central
<input type="checkbox"/>	<input type="checkbox"/>	28 Elec'l Generation, Small Scale
<input type="checkbox"/>	<input type="checkbox"/>	29 Process Heat, Agricultural
<input type="checkbox"/>	<input type="checkbox"/>	30 Process Heat, Industrial
<input type="checkbox"/>	<input type="checkbox"/>	31 Space Heating
<input type="checkbox"/>	<input type="checkbox"/>	32 Space Cooling
<input type="checkbox"/>	<input type="checkbox"/>	33 Wind Power, Central Systems
<input type="checkbox"/>	<input type="checkbox"/>	34 Wind Power, Small Systems
		Other (specify) _____
<input type="checkbox"/>	<input type="checkbox"/>	35 _____
<input type="checkbox"/>	<input type="checkbox"/>	36 _____

**Please complete back of form for this course. Thank you.**

## II. Educational Data Base — Course Information (Continued)

Materials Used or Proposed for Use in this Course

18. Is a text used in this course? Yes ☐ No ☐

19. Name of text \_\_\_\_\_ 20. Author \_\_\_\_\_

The following are used in this course

21. Slides Yes ☐ No ☐ 22. Films Yes ☐ No ☐ 23. Demonstrations Yes ☐ No ☐

24. List sources of above materials or describe demonstrations

25. Course Prerequisites (May be copied from catalog, etc.)

26. Course Description (May be copied from catalog, etc.)

Thank you very much for your participation.

X V

## SELECTED SOURCES OF INFORMATION

An abundance of reference materials and other sources of information exists in the field of solar energy. The sources of information cited here will only be highlights of some of the information which can be obtained.

### a. Solar Energy Research Institute.

For information about SERI publications contact the SERI Public Information Office, 1536 Cole Boulevard, Golden, Colorado 80401, (303) 231-1000. Ask to be placed on the mailing list for the SERI Publications and Presentations Bulletin, a quarterly publication. The first issue, Volume I-1, was published in November, 1978.

### b. US Department of Energy.

- 1) "Guide to Solar Energy Programs" (Latest Edition) DOE/ET-0036/1, US Department of Energy, Assistant Secretary of Energy Technology Division of Solar Technology Washington, DC 20545

Also available from:

US Government Printing Office  
Washington, DC 20402 Price: \$2.40  
S/N 061-000-00042-9

- 2) "Solar Energy Task Force Report on Technical Training" (Appropriate for Educational Institutions involved in or anticipating involvement in solar course, program, or curriculum development.) Draft report distributed at the National Energy Education, Business and Labor Conference in Washington, DC, January 15-17, 1979.

Available from:

Education Programs Division  
US Department of Energy  
Forrestal Building, 1000 Independence Ave., SW  
Washington, DC 20585 (202) 376-9211  
Also available from:

SERI, Public Information Office  
1536 Cole Boulevard



Golden, CO 80401

In DC, ask for other documents available from the Education Programs Division of Inter-governmental and Institutional Relations and the Technology Transfer Division of Conservation and Solar Applications.

- 3) Education materials also available from:  
US Department of Energy  
Technical Information Center  
PO Box 62  
Oak Ridge, TN 37830

- c. National Solar Heating and Cooling Information Center.

Bibliographies and reference lists are available along with films and many other resources. Call toll free (800) 523-2929. In Pennsylvania call (800) 462-4983. Or write:

National Solar Heating and Cooling Information Center  
PO Box 1607  
Rockville, MD 20850

- d. US Office of Education.

For Possible funding sources obtain:

"A Selected Guide to Federal Energy and Education Assistance"

Energy and Education Action Center  
US Office of Education, Room 514  
Reporters Building, 300 7th Street, SW -  
Washington, DC 20202 (202) 472-7777

USER EVALUATION SHEET

NATIONAL SOLAR ENERGY EDUCATION DIRECTORY

Please take a few minutes to complete the following form. Your comments will be valuable to us.

1. I found the 1978-79 NSEED:

☒ Extremely useful

☐ Useful

☐ Not very useful, but worth having

☐ Not worth printing

Comments: \_\_\_\_\_

2. I found the information to be:

☐ Sufficiently detailed

☐ Not detailed sufficiently

Comments: \_\_\_\_\_

3. I would like to see the following cross references in future directories:

a. \_\_\_\_\_

b. \_\_\_\_\_

4. I found the printing quality to be:

☐ Satisfactory

☐ Unsatisfactory

5. I recommend the continuation of an annual publication of the Solar Energy Education Directory:

☐ Yes

☐ No

6. I recommend the following additions, deletions, changes to be made in future directories:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. I would like to see the following special reports from the data base on solar energy education:

\_\_\_\_\_  
\_\_\_\_\_

Please return form to:

Academic Programs Branch  
Attn: Kevin O'Connor  
Solar Energy Research Institute  
1536 Cole Boulevard  
Golden, Colorado 80401

(Optional) Respondent's Name and Address

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Colleges/Universities

ALABAMA A & M UNIVERSITY (1002)  
 Patton Hall  
 NORMAL, Alabama 35762  
 (205) 859-7011

## SOLAR RELATED COURSES

*An Introduction to Practical Energy Systems*  
 Instructor: Jenkins, Joseph  
 (705) 859-7320  
 Course Number: IDS 501  
 Department: Technology/Engineering Technology  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 8.0 hrs per week  
 Contact Hours: 80  
 Classroom: 60  
 Laboratory: 20  
 Number of Times Taught: 2  
 Average Enrollment: 30

*Heat Transfer*

Instructor: Jenkins, Joseph  
 (205) 859-7320  
 Course Number: MET 408  
 Department: Technology/Engineering Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Topics Covered Extensively: Heat and Energy Transfer  
 Number of Times Taught: 4  
 Average Enrollment: 10

*Thermodynamics*

Instructor: Jenkins, Joseph  
 (205) 859-7320  
 Course Number: MET 306  
 Department: Technology/Engineering Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Number of Times Taught: 15  
 Average Enrollment: 15

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ALABAMA IN BIRMINGHAM, U (1052)  
 BIRMINGHAM, Alabama 35294  
 (205) 934-4011

## SOLAR RELATED COURSES

*Ener. Crisis, Homeowners Alternatives*

Instructor: Garrison, Aubrey  
 (205) 871-7336  
 Department: Special Studies  
 Student Level: All levels  
 Duration: 6 Weeks, 2.0 hrs per week  
 Contact Hours: 12

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar Home Construction

Number of Times Taught: 2  
 Average Enrollment: 15

*Energy Crisis and the Environment*

Instructor: Young, John  
 (204) 934-3375  
 Course Number: ENV 2  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Number of Times Taught: 10  
 Average Enrollment: 100

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ALABAMA IN HUNTSVILLE, U (1055)  
 HUNTSVILLE, Alabama 35807  
 (205) 895-6120

## SOLAR RELATED COURSES

*Solar Systems Analysis - Part I*

Instructor: Humphries/ Nash  
 (205) 453-3629  
 Course Number: CE-T67  
 Department: Continuing Education  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 15

*Solar Systems Analysis - Part 4*

Instructor: Humphries, William R.  
 (205) 453-3629  
 Course Number: CE-T74  
 Department: Continuing Education  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 10

*Survey of Solar Heating and Cooling*

Instructor: Humphries, William R.  
 (205) 453-3629  
 Course Number: CE-T49  
 Department: Continuing Education  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar

Energy; Solar Collector  
Evaluation/Design  
Number of Times Taught: 4  
Average Enrollment: 14

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AUBURN U AT MONTGOMERY  
MONTGOMERY, Alabama 36117  
(205) 279-9110

(8310)

#### SOLAR RELATED COURSES

##### *School Facility Planning*

Instructor: Harrison, Barker  
(205) 279-9110  
Course Number: 691  
Department: Education/Administrator  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 36  
Laboratory: 8  
Number of Times Taught: 10  
Average Enrollment: 16

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AUBURN U MAIN CAMPUS  
AUBURN, Alabama 36830  
(205) 826-4000

(1009)

#### SOLAR RELATED COURSES

##### *Energy Conscious Design*

Instructor: Baxley, Harry  
(205) 821-4517  
Course Number: AP 495  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Number of Times Taught: 5  
Average Enrollment: 15

##### *Solar Energy Utilization*

Instructor: Goodling, J. S.  
(205) 826-4579  
Course Number: 683  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 10

##### *Special Problems and Terminal Project*

Instructor: Lechner, Norbert  
(205) 826-4518

Course Number: 4600490  
Department: Architecture & Fine  
Arts  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Number of Times Taught: 2  
Average Enrollment: 15

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MONTEVALLO UNIVERSITY OF  
MONTEVALLO, Alabama 35115  
(205) 665-2521

(1004)

#### SOLAR RELATED COURSES

##### *Energy and Civilization*

Instructor: Kwon, T.H.  
(205) 665-2521  
Course Number: 20  
Department: Physics  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 14 Weeks, 3.5 hrs per week  
Contact Hours: 50  
Classroom: 36  
Laboratory: 14  
Number of Times Taught: 2  
Average Enrollment: 22

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## Colleges/Universities

**ALASKA METH UNIVERSITY** (1061)  
ANCHORAGE, Alaska 99504  
(907) 276-8181

## SOLAR RELATED COURSES

*Alaska's Energy Resources*

Instructor: Rutledge, Eugene  
Course Number: PHYS 492  
Department: Arts and Sciences  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 2.5 hrs per week  
Contact Hours: 35  
Classroom: 35  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Law/Legislation; Elec'l Generation, Central; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 10

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## Community/Junior Colleges

**ALASKA ANCHORAGE CC, U OF** (1064)  
ANCHORAGE, Alaska 99504  
(907) 279-6602

## SOLAR RELATED COURSES

*Topics on Solar and Wind Power*

Instructor: Wise, James L.  
(907) 279-4523  
Course Number: ENVS 194  
Department: Natural Sciences/Mathematics  
Credits: 1  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Law/Legislation; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 25

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**U OF ALASKA KENAI CC** (1066)  
SOLDOTHA, Alaska 99669  
(907) 262-5801

## SOLAR RELATED COURSES

*Alternative Sources I*

Instructor: Steffy, D.  
(907) 262-5801  
Course Number: ET 211  
Department: Applied Science  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Process Heat, Agricultural; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems

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**U OF ALASKA NORTHWEST CC** (13169)  
NOME, Alaska 99762  
(907) 443-2201

## SOLAR RELATED COURSES

*Environment Society*

Instructor: McGuire, Nancy  
(907) 443-2201  
Course Number: BIOL103  
Department: Arts and Science  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42

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**U OF ALASKA TAHANA VLY CC** (29093)  
FAIRBANKS, Alaska 99701  
(907) 479-7035

## SOLAR RELATED COURSES

*Const. and Analysis Ener. Eff. Homes*

Instructor: Raggasch, Robert  
(907) 479-7880  
Course Number: P.D. 193  
Department: Community Interest Programs  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate Energy Sources

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## Colleges/Universities

ARIZONA STATE UNIVERSITY (1081)  
TEMPE, Arizona 85281  
(602) 965-9011

## PROGRAMS AND CURRICULA

*Energy Conversion and Power Systems*

Degree: PhD, MS, BS, Mechanical Engineering

Contact: Metzger, D. E.  
(602) 965-3291

Students Taking or Completing Offering:  
Trade Specialty

## SOLAR RELATED COURSES

*Direct Energy Conversion 487*

Course Number: MEE 487  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Energy Conversion  
Average Enrollment: 25

*Direct Energy Conversion 583*

Course Number: MEE 583  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Energy Conversion  
Number of Times Taught: 2  
Average Enrollment: 5

*Direct Energy Conversion 587*

Instructor: Backus, C. E.  
(602) 954-3857  
Course Number: MEE587  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Laboratory: 0  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Photovoltaics; Elec'l Generation, Central; Elec'l Generation, Small Scale  
Number of Times Taught: 11  
Average Enrollment: 22

*Heat Transfer (Convection)*

Course Number: MEE 586  
Department: Mechanical Engineering

Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Heat and Energy Transfer  
Number of Times Taught: 1  
Average Enrollment: 10

*P-5: Energy Technology*

Course Number: MEE 498  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Number of Times Taught: 1  
Average Enrollment: 15

*P-5: Solar Energy Fundamentals*

Course Number: MEE 498  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Number of Times Taught: 1  
Average Enrollment: 15

*S: Photovoltaics*

Course Number: MEE 591  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion and Power Systems  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Photovoltaics  
Number of Times Taught: 1  
Average Enrollment: 5

*Solar Energy*

Instructor: Wood, Byard D.  
(602) 965-7298  
Course Number: MEE658  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector



Evaluation/Design; Solar Systems Design.  
 Number of Times Taught: 1  
 Average Enrollment: 15

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ARIZONA, UNIVERSITY OF  
 TUCSON, Arizona 85721  
 (602) 884-2751

(1083)

#### PROGRAMS AND CURRICULA

##### Energy Systems Engineering

Degree: MS, BS, Engineering  
 Contact: Carlite, R.N.  
 (602) 626-1672

Students Taking or Completing Offering:  
 Researcher, Solar Engineer

#### SOLAR RELATED COURSES

##### Advanced Solar Engineering

Instructor: Fazzolare, Rocco  
 (602) 626-2487

Course Number: 301  
 Department: Engineering  
 Program or Curriculum: Energy Systems,  
 Engineering

Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Solar  
 Economics; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 7

##### Solar Energy Engineering

Instructor: Rogers, W.L.  
 (602) 626-2159  
 Course Number: AME 267  
 Department: Engineering, Mines  
 Program or Curriculum: Energy Systems  
 Engineering

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 3  
 Average Enrollment: 70

##### Solar, Wind, Biomass Ener. Util.

Instructor: Larson, D.L./William,  
 D.W.  
 (602) 626-3463

Course Number: 199  
 Department: Soils, Water &  
 Engineering

Credits: 2  
 Student Level: All levels  
 Duration: 17 Weeks, 4.0 hrs per week  
 Contact Hours: 68  
 Classroom: 17

Laboratory: 51  
 Topics Covered Extensively: Alternate  
 Energy Sources; Biomass Conversion;  
 Intro. to Solar Energy; Solar System  
 Components

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NORTHERN ARIZ UNIVERSITY  
 FLAGSTAFF, Arizona 86001  
 (602) 523-9011

(1082)

#### PROGRAMS AND CURRICULA

##### Mechanical Engineering Technology

Degree: BS, Engineering Technology  
 Contact: Hepworth, H. Kent  
 (602) 523-5251

Students Taking or Completing Offering:  
 Solar Engineer

#### SOLAR RELATED COURSES

##### Direct Energy Conversion

Instructor: Hepworth, H. Kent  
 (602) 523-5251

Course Number: EGR 402  
 Department: Engineering &  
 Technology

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conversion; Materials Research;  
 Photovoltaics  
 Number of Times Taught: 10  
 Average Enrollment: 40

##### Solar Energy Technology

Instructor: Kuzma, Dennis C.  
 (602) 523-5251

Course Number: EGR 451  
 Department: Engineering and  
 Technology

Program or Curriculum: Mechanical Engineering  
 Technology

Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Energy  
 Storage; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Economics; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Domestic Hot Water;  
 Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 20

##### Solar Engineering Analysis and Design

Instructor: Kuzma, Dennis C.  
 (602) 523-5251

Course Number: EGR 451

Department: Engineering and Technology  
 Program or Curriculum: Mechanical Engineering Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 33

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## Community/Junior Colleges

COCHISE COLLEGE  
 DOUGLAS, Arizona 85607  
 (602) 364-7943

(1072)

## SOLAR RELATED COURSES

*Solar Energy Systems*  
 Instructor: Elkins, Bob  
 (602) 458-7110  
 Course Number: TI025  
 Department: Technology  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 5.0 hrs per week  
 Contact Hours: 80  
 Classroom: 32  
 Laboratory: 48  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design

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GLENDALÉ CMTY COLLEGE  
 GLENDALÉ, Arizona 85302  
 (602) 934-2211

(1076)

## SOLAR RELATED COURSES

*Bld.-It-Yourself-Sol. Water Heating*  
 Instructor: Pittenger  
 (602) 966-5488  
 Course Number: G 220-226  
 Department: Continuing Education

Student Level: All Levels  
 Duration: 1 Weeks, 8.0 hrs per week  
 Contact Hours: 8  
 Classroom: 1  
 Laboratory: 7  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Systems Installation; Domestic Hot Water  
 Number of Times Taught: 1

*Solar Energy: A Consumer Guide*

Instructor: Pittenger  
 (602) 966-5488  
 Course Number: G 192  
 Department: Continuing Education  
 Student Level: All Levels  
 Duration: 13 Weeks, 2.0 hrs per week  
 Contact Hours: 26  
 Classroom: 20  
 Laboratory: 6  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Systems Installation; Domestic Hot Water  
 Number of Times Taught: 1

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MOHAVE COMMUNITY COLLEGE  
 KINGMAN, Arizona 86401  
 (602) 757-4331

(11864)

## SOLAR RELATED COURSES

*Intro. Solar Energy*  
 Instructor: Byfield, Hal  
 (602) 757-4331  
 Course Number: PHY091  
 Department: Physics  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Topics Covered Extensively: Alternate Energy Sources  
 Number of Times Taught: 3  
 Average Enrollment: 15

*Solar Energy and Survival*

Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction;

Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Testing and Evaluation; Space Heating;  
Space Cooling; Wind Power, Central  
Systems; Wind Power, Small Systems

Installation; Domestic Hot Water  
Number of Times Taught: 2  
Average Enrollment: 25

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**Special Project: Tech. of Solar Systems**

Instructor: Byfield, Hal  
(602) 757-4331  
Course Number: PHY290  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 54  
Topics Covered Extensively: Alternate  
Energy Sources  
Number of Times Taught: 3  
Average Enrollment: 15

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**NORTHLAND PIONEER COLLEGE** (11862)  
HOLBROOK, Arizona 86025  
(602) 524-6111

**SOLAR RELATED COURSES**

**Solar and Alternate Energy Sources**

Instructor: Plucker, Frank  
(602) 289-5082  
Course Number: PHY180  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Classroom: 40  
Laboratory: 11  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy  
Number of Times Taught: 6  
Average Enrollment: 14

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**RIO SALADO COMMUNITY COLLEGE** (90010)  
10451 Palmera Dr.  
Sun City, Arizona 85373  
(602) 974-9939

**SOLAR RELATED COURSES**

**Solar Energy**

Instructor: Ploeser, Wm. J.  
(602) 977-7615  
Course Number: PH 101-9843  
Department: Physics  
Credits: 1  
Student Level: All levels  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Topics Covered Extensively: Intro. to  
Solar Energy; Plumbing Techniques;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems

**YAVAPAI COLLEGE** (1079)  
PRESCOTT, Arizona 86301  
(602) 445-7300

**PROGRAMS AND CURRICULA**

**Solar Energy Technology**

Contact: Minkler, L./ Beverly, G./  
Strom, L.  
(602) 445-7300

Students Taking or Completing Offering:  
Do-it-yourself Homeowner,  
Installer-Residential (Solar System)

**SOLAR RELATED COURSES**

**Here Comes the Sun**

Instructor: Minkler, Lyle  
(602) 445-5264  
Course Number: PAS100  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar Economics; Solar  
Collector Evaluation/Design  
Number of Times Taught: 1  
Average Enrollment: 28

**Methane, Hind-Elec., Hood-Alt. Ener.**

Instructor: Beverly, Gary  
(602) 445-7300  
Course Number: PHS109  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Bio-mass Conversion; Elec'l Generation,  
Small Scale  
Number of Times Taught: 4  
Average Enrollment: 14

**Solar Cookers**

Instructor: Minkler, Lyle  
(602) 445-5264  
Course Number: PHS105  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Solar  
Collector Evaluation/Design

**Solar Greenhouse**

Instructor: Beverly, Gary  
(602) 445-7300  
Course Number: PHS107  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Systems Design; Space Heating  
Number of Times Taught: 5  
Average Enrollment: 16

**Solar Heating, Air and Water Systems**

Instructor: Minkler, Lyle  
(602) 445-5264  
Course Number: PHS101  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Solar System Components; Solar Systems Design  
Number of Times Taught: 1  
Average Enrollment: 15

**Solar Heating, Passive and Hybrid Systems**

Instructor: Frerking, Mike  
Course Number: PHS102  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 9

**Solar Heating, Retrofit Systems**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS104  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

**Solar Hot Water**

Instructor: Beverly, Gary  
(602) 445-7300  
Course Number: PHS103  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water  
Number of Times Taught: 1  
Average Enrollment: 4

**Solar Laboratory 121**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS121  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 6 Weeks, 4.5 hrs per week  
Contact Hours: 27  
Classroom: 6  
Laboratory: 21  
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 25

**Solar Laboratory 122**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS 122  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 6 Weeks, 4.5 hrs per week  
Contact Hours: 27  
Classroom: 6  
Laboratory: 21  
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 25

**Solar Laboratory 123**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS 123  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 6 Weeks, 4.5 hrs per week

Contact Hours: 27  
Classroom: 6  
Laboratory: 21  
Topics Covered Extensively: Solar  
Systems Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 25

**Solar Laboratory 124**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS 124  
Department: Science  
Program or  
Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 6 Weeks, 4.5 hrs per week  
Contact Hours: 27  
Classroom: 6  
Laboratory: 21  
Topics Covered Extensively: Solar  
Systems Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 25

**Solar Laboratory 125**

Instructor: Minkler, Lyle  
(602) 445-7300  
Course Number: PHS 125  
Department: Science  
Program or  
Curriculum: Solar Energy Technology  
Credits: 1  
Duration: 6 Weeks, 4.5 hrs per week  
Contact Hours: 27  
Classroom: 6  
Laboratory: 21  
Topics Covered Extensively: Solar  
Systems Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 25

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## Colleges/Universities

ARKANSAS MAIN CAMPUS, U OF  
FAYETTEVILLE, Arkansas 72701  
(501) 575-2000

(1108)

## SOLAR RELATED COURSES

## Introduction to Solar Energy

Instructor: Gilbrech, Donald A.  
(501) 575-3054  
Course Number: 4303  
Department: Engineering Science  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Economics;  
Solar Collector Evaluation/Design;  
Domestic Hot Water; Space Heating;  
Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 25

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CENTRAL ARKANSAS, U OF  
CONWAY, Arkansas 72032  
(501) 329-2931

(1092)

## PROGRAMS AND CURRICULA

## Solar Energy Workshop

Degree: Certificate of Completion  
Contact: Feck, Vincent J./ Jordan, Ken  
(501) 329-2931  
Students Taking or Completing Offering:  
Contractor, Plumber, Sheet Metal Worker

## SOLAR RELATED COURSES

## Workshop in Solar Energy

Instructor: Jordan, Ken/ Pray, Dr.  
(501) 329-2931  
Department: Voc. Educ./Indus  
Educ./Physics  
Program or  
Curriculum: Solar Energy Workshop  
Student Level: High School Graduate  
Duration: 1 Weeks, 12.0 hrs per week  
Contact Hours: 12  
Classroom: 8  
Laboratory: 4  
Topics Covered Extensively: Intro. to  
Solar Energy; Plumbing Techniques;  
Solar System Components; Solar Home  
Construction; Solar Law/Legislation;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Installation; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 1  
Average Enrollment: 93

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## Community/Junior Colleges

MISS CO CTRY COLLEGE  
BLYTHEVILLE, Arkansas 72315  
(501) 762-1020

(12860) W

## PROGRAMS AND CURRICULA

## Solar Energy Technology

Degree: AD, Applied Sci. in Solar  
Tech.  
Contact: Hughes, G. Edward/ Benson,  
Chris  
(501) 762-1020  
Students Taking or Completing Offering:  
Solar Technician

## SOLAR RELATED COURSES

## Solar Technology Cooperative Education

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58970  
Department: Applied Science  
Program or  
Curriculum: Solar Energy Technology  
Credits: 6  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 6.0 hrs per week  
Contact Hours: 90  
Topics Covered Extensively: Plumbing  
Techniques; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Elec'l Generation,  
Central; Elec'l Generation, Small,  
Scale; Process Heat, Agricultural;  
Process Heat, Industrial; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

## Solar Technology I

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58003  
Department: Applied Science  
Program or  
Curriculum: Solar Energy Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Collector Evaluation/Design; Domestic  
Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 20



**Solar Technology I Lab.**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58001  
Department: Applied Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Laboratory: 30  
Topics Covered Extensively: Energy Storage; Materials Research; Plumbing Techniques; Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

**Solar Technology II**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58203  
Department: Applied Science  
Program or Curriculum: Solar Energy Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 20

**Solar Technology II Lab.**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58201  
Department: Applied Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Laboratory: 30  
Topics Covered Extensively: Materials Research; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Systems Design; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

**Solar Technology III**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58403  
Department: Applied Science

**Program or**

Curriculum: Solar Energy Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Storage; Photovoltaics; Plumbing Techniques; Solar Energy Policy Development; Solar Economics; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 20

**Solar Technology III Lab.**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58401  
Department: Applied Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Laboratory: 30  
Topics Covered Extensively: Energy Storage; Materials Research; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

**Solar Topics**

Instructor: Benson, C.M.  
(501) 762-1020  
Course Number: 58700  
Department: Applied Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 15  
Laboratory: 15  
Topics Covered Extensively: Energy Storage; Photovoltaics; Plumbing Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation  
Number of Times Taught: 1  
Average Enrollment: 5

## Colleges/Universities

**CAL INST OF TECHNOLOGY**  
PASADENA, California 91125  
(213) 795-6811

## PROGRAMS AND CURRICULA

**\*Research in Heating and Photovoltaics**  
Contact: Cannon, R.H.

## SOLAR RELATED COURSES

**\*Adv. Thermodynamics & Ener. Trans.**

Instructor: Agosta, A.J.  
Course Number: ME 118ABC  
Department: Eng'r & Appl. Sci.,  
Mach. Eng'r.

Program or  
Curriculum: \*Research in Heating  
and Photovoltaics

Topics Covered Extensively: Heat and  
Energy Transfer

**\*Heat & Energy Transfer**

Instructor: Sabersky, R.H.  
Course Number: ME 19C  
Department: Eng'r & Appl. Sci.,  
Mach. Eng'r.

Program or  
Curriculum: \*Research in Heating  
and Photovoltaics

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion; Heat  
and Energy Transfer; Intro. to Solar  
Energy

**\*Prin. of Ener. Conversion and Distrib.**

Instructor: Rannie, W.D.  
Course Number: ME102ABC  
Department: Eng'r & Appl. Sci.,  
Mach. Eng'r.

Program or  
Curriculum: \*Research in Heating  
and Photovoltaics

**\*Solid-State Electronics Lab.**

Instructor: McCaldin, J.O.  
Course Number: APH 9  
Department: Eng'r & Appl. Sci.,  
Appl. Phys.

Program or  
Curriculum: \*Research in Heating  
and Photovoltaics

Topics Covered Extensively:  
Photovoltaics; Elec'l Generation,  
Central; Elec'l Generation, Small Scale

**\*Turbomachines**

Instructor: Rannie, W.D.  
Course Number: JP250ABC  
Department: Eng'r & Appl. Sci.,  
Jet Prop.

Program or  
Curriculum: \*Research in Heating  
and Photovoltaics

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**CAL POLY ST UNZ. - SAN LUIS OB** (1143)  
SAN LUIS OBISPO, California 93407  
(805) 546-0111

## PROGRAMS AND CURRICULA

**Sol. Envir. Sys. / Envir. Engr.**

Degree: BS, Environmental Engineering  
Contact: Holtz, Walter E.  
(805) 546-2539

Students Taking or Completing Offering:  
Solar Engineer, Solar Technician, Other

## SOLAR RELATED COURSES

**Intro to Environmental Design Sci**

Instructor: Pohl, Jens G.  
(805) 546-2841

Course Number: EDES 221  
Department: Architecture  
Credits: 3  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 20  
Laboratory: 10

Topics Covered Extensively: Energy  
Conservation; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar Home  
Construction; Domestic Hot Water; Space  
Heating

Number of Times Taught: 3  
Average Enrollment: 120

**Solar Energy**

Instructor: Clark, W.E.  
(805) 546-1248

Course Number: ENVE 221  
Department: Environmental  
Engineering

Program or  
Curriculum: Sol. Envir. Sys. /  
Envir. Engr.

Credits: 3  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Space Heating  
Number of Times Taught: 18  
Average Enrollment: 35

**Solar Energy Engineering**

Instructor: Niles, Philip W.  
(805) 546-2643

Course Number: ENVE 322  
Department: Environmental  
Engineering

Program or  
Curriculum: Sol. Envir. Sys. /  
Envir. Engr.

Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 20  
Laboratory: 30

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;

Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 3  
Average Enrollment: 25

**Solar Energy Systems Analysis**

Instructor: Niles, P.W.  
(805) 546-2643  
Course Number: ENVE 366  
Department: Environmental  
Engineering  
Program or  
Curriculum: Sol. Envirn. Sys./  
Envir. Engrn.  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 50  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Domestic  
Hot Water; Process Heat, Agricultural;  
Process Heat, Industrial; Space  
Heating; Space Cooling

**Solar Energy Systems Design**

Instructor: Niles, P. W.  
(805) 546-2643  
Course Number: ENVE 367  
Department: Environmental  
Engineering  
Program or  
Curriculum: Sol. Envirn. Sys./  
Envir. Engrn.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 7.0 hrs per week  
Contact Hours: 70  
Classroom: 10  
Laboratory: 60  
Topics Covered Extensively: Energy  
Storage; Passive Solar Technology;  
Plumbing Techniques; Sheet Metal  
Techniques; Solar System Components;  
Solar Home Construction; Solar Systems  
Design; Solar Systems Installation;  
Domestic Hot Water; Process Heat,  
Agricultural; Process Heat, Industrial;  
Space Heating; Space Cooling

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**CAL STATE C- DOMINGUEZ HLS** (1141)  
DOMINGUEZ HILLS, California 90747  
(213) 532-4300

**SOLAR RELATED COURSES**

**\*Energy and Man: Their Future Together**  
Instructor: Gash, Ken/ Rogers,  
Richard  
Course Number: ED X403  
Department: Grad. School of  
Education  
Topics Covered Extensively: Energy

Conversion; Solar Economics

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**CAL STATE C- SAN BERNARDINO** (1142)  
SAN BERNARDINO, California 92407  
(714) 887-7201

**SOLAR RELATED COURSES****Energy and Its Utilization by Man**

Instructor: Mantel, K.  
(714) 887-7344  
Course Number: NS432  
Department: Natural Sciences  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion  
Number of Times Taught: 8

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**CAL STATE COLLEGE- SONOMA** (1156)  
ROHNERT PARK, California 94928  
(707) 664-2880

**PROGRAMS AND CURRICULA****\*Sol. Heat. Tech. Skills Training**

Contact: Mote, Gayla  
(707) 664-2577  
Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****\*Solar Technician Train. Classes**

Program or  
Curriculum: \*Sol. Heat. Tech.  
Skills Training  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Marketing/Market Analysis;  
Passive Solar Technology; Plumbing  
Techniques; Sheet Metal Techniques;  
Solar System Components; Solar  
Economics; Solar Law/Legislation; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Space Cooling

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**CAL STATE POLY U- POMONA**  
 POMONA, California 91768  
 (714) 598-4726

(1144)

**SOLAR RELATED COURSES****Solar Energy Systems**

Instructor: Biddle, John R.  
 (714) 598-0239  
 Course Number: EGR590  
 Department: Mechanical Engineering  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 12 Weeks, 4.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Appropriate Technology; Energy Storage; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation  
 Number of Times Taught: 1  
 Average Enrollment: 32

**Solar Thermal Engineering**

Instructor: Biddle, John R.  
 (714) 598-0239  
 Course Number: ME407  
 Department: Mechanical Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 12 Weeks, 4.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water  
 Number of Times Taught: 1  
 Average Enrollment: 32

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**CAL STATE U- CHICO**  
 CHICO, California 95929  
 (916) 895-5011

(1146)

**SOLAR RELATED COURSES****Alternate Energy Systems**

Instructor: O'Bannon, James E.  
 (916) 343-2975  
 Course Number: 109  
 Department: Industry and Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 3 Weeks, 17.0 hrs per week  
 Contact Hours: 51  
 Classroom: 36  
 Laboratory: 15  
 Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy  
 Number of Times Taught: 3  
 Average Enrollment: 40

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**CAL STATE U- FRESNO**  
 FRESNO, California 93740  
 (209) 487-9011

(1147)

**SOLAR RELATED COURSES****Energy and the Environment**

Instructor: Russell, Kenneth  
 (209) 487-2170  
 Course Number: NSCI 140T  
 Department: Natural Science  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design  
 Number of Times Taught: 2  
 Average Enrollment: 28

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**CAL STATE U- FULLERTON**  
 FULLERTON, California 92634  
 (714) 870-2011

(1137)

**SOLAR RELATED COURSES****\*Solar Ener. & Eng'r. Appl.**

Instructor: Turner, Robert  
 Course Number: EGRG 472  
 Department: Mech. Eng'r.  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Energy Conversion; Energy Storage; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

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**CAL STATE U- HAYWARD**  
 HAYWARD, California 94542  
 (415) 881-3000

(1138)

**SOLAR RELATED COURSES****Energy and Environment**

Instructor: Good, R. H.  
 (415) 881-3401  
 Course Number: PHY-3650  
 Department: Physics  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week

Contact Hours: 40  
 Classroom: 40  
 Number of Times Taught: 1  
 Average Enrollment: 20

*Environ. Ed. using Sch. and Comm. Res.*

Instructor: Reillon, Esther  
 (415) 881-3027

Course Number: TED 6415  
 Department: Teacher Education  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 30  
 Laboratory: 20  
 Number of Times Taught: 6  
 Average Enrollment: 25

*Environmental Law*

Instructor: Smith, J. Malcolm  
 (415) 881-3221

Course Number: 3460  
 Department: Political Science  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Solar Law/Legislation  
 Number of Times Taught: 3  
 Average Enrollment: 23

*Geography Of Energy Resources*

Instructor: Pasenhart, Thomas H.  
 (415) 881-3159

Course Number: 4320  
 Department: Geography  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 7  
 Average Enrollment: 23

*Public Policy and the Environment*

Instructor: Lewis, Sherman  
 (415) 881-3221

Course Number: 4171  
 Department: Political Science  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Energy Policy Development  
 Number of Times Taught: 5

Average Enrollment: 15

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CAL STATE U- LONG BEACH (1139)  
 LONG BEACH, California 90840  
 (213) 498-4121

## PROGRAMS AND CURRICULA

*Ener. Convs., Power Sysys. Engineering*  
 Degree: Other, Ener. Convs., Power Sysys. Engineering  
 Contact: Unt. Hillard, Jordanides  
 (213) 498-4407

Students Taking or Completing Offering:  
 Trade Specialty

## SOLAR RELATED COURSES

*Energy Selection and Conversion*

Instructor: Dyer, J.L.  
 Course Number: ME411  
 Department: Mechanical Engineering  
 Program or Curriculum: Ener. Convs., Power Sysys. Engineering  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Elec'l Generation, Central; Elec'l Generation, Small Scale; Wind Power, Small Systems

*Special Topics in Mech. Engin.*

Instructor: Sungu, Sabri  
 Course Number: ME405  
 Department: Mechanical Engineering  
 Program or Curriculum: Ener. Convs., Power Sysys. Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling

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**CAL STATE U- LOS ANGELES** (1140)  
LOS ANGELES, California 90032  
(213) 224-0111

#### SOLAR RELATED COURSES

##### *Design of Solar Systems*

Instructor: Mann, George  
(213) 224-2479  
Department: Engineering, Mechanical  
Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Elec'l  
Generation, Central; Space Heating;  
Space Cooling

##### *Introduction to Solar Engineering*

Instructor: Mann, George  
(213) 224-2479  
Department: Engineering, Mechanical  
Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar Collector  
Evaluation/Design

##### *Solar Energy Applications*

Instructor: Manvi, Ram/ Turner, R.  
(213) 224-2479  
Course Number: ENGR 498  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 30  
Laboratory: 10  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Elec'l Generation,  
Central; Elec'l Generation, Small Scale  
Number of Times Taught: 2  
Average Enrollment: 10

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**CAL STATE U- NORTHRIDGE** (1153)  
NORTHRIDGE, California 91330  
(213) 885-1200

#### SOLAR RELATED COURSES

##### *Solar Energy for Homeowners*

Instructor: Dixon, Gregg W.  
(213) 885-2187  
Department: Mechanical and Chemical  
Engineering  
Student Level: All levels  
Duration: 6 Weeks, 3.0 hrs per week  
Contact Hours: 18  
Classroom: 18  
Number of Times Taught: 3  
Average Enrollment: 32

##### *Solar Energy Engineering*

Instructor: Dixon, Gregg W.  
(213) 885-2187  
Course Number: 4945  
Department: Mechanical and Chemical  
Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 12

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**CAL- BERKELEY, U OF** (1312)  
BERKELEY, California 94720  
(415) 642-6000

#### PROGRAMS AND CURRICULA

##### *Solar Engineering*

Degree: BS, Sci-El. Eng. & Computer  
Sci.  
Contact: Birdsall, Charles K.  
(415) 642-4015  
Students Taking or Completing Offering:  
Solar Engineer, Electrician

#### SOLAR RELATED COURSES

##### *Approaching a Solar Society*

Instructor: Berman, S./ Birdsall,  
C.K.  
(415) 642-4015  
Course Number: E298-4  
Department: Engineering  
Program or  
Curriculum: Solar Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 20 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion;  
Intro. to Solar Energy; Solar Energy  
Policy Development



Number of Times Taught: 1  
Average Enrollment: 15

**Direct Energy Conversion**

Instructor: Hu, Chenming  
(415) 642-3393  
Course Number: EEC 290 G  
Department: Elec. Eng. and Computer Sciences

Program or Curriculum: Solar Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 35  
Classroom: 30  
Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy; Photovoltaics; Elec'l Generation, Small Scale  
Number of Times Taught: 1  
Average Enrollment: 8

**Elementary Solar Electric Systems**

Instructor: Smith, O.J.M.  
(415) 642-7591  
Course Number: EEC5165  
Department: Elec. Eng. & Computer Sci.

Program or Curriculum: Solar Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems Design; Solar Systems Installation; Elec'l Generation, Central; Wind Power, Small Systems

**Energy and Power**

Instructor: Lieberman, M.A.  
(415) 642-1030  
Course Number: E160  
Department: Engineering  
Program or Curriculum: Solar Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy  
Number of Times Taught: 7  
Average Enrollment: 100

**Energy Conversion Principles**

Instructor: Daily, John W.  
(415) 642-0238  
Course Number: ME 145  
Department: Mechanical Engineering  
Program or Curriculum: Solar Engineering  
Credits: 4

Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Photovoltaics  
Number of Times Taught: 7  
Average Enrollment: 22

**Physics of Solar Radiation**

Instructor: Portis, Alan M.  
(415) 642-3697  
Course Number: 180B  
Department: Physics  
Program or Curriculum: Solar Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

**Physics of Solar Radiation**

Instructor: Portis, Alan M.  
(415) 642-3697  
Course Number: 180A  
Department: Physics  
Program or Curriculum: Solar Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design

**Sol. Ener. for Bldgs., Home Pools**

Instructor: Pike, Nanette  
(415) 642-4151  
Department: Continuing Education in Engineering  
Student Level: College Graduate  
Duration: 1 Weeks, 16.0 hrs per week  
Contact Hours: 16  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 9  
Average Enrollment: 90

**Solar Cells-Basic to Advanced Systems**

Instructor: Barry, Helen  
(415) 642-4151  
Department: Continuing Education in Engineering  
Student Level: College Graduate

Duration: 1 Weeks, 3.0 hrs per week  
 Contact Hours: 8  
 Topics Covered Extensively:  
 Photovoltaics

**Solar Electric Systems**

Instructor: Smith, O.J.H.  
 (415) 642-7591  
 Course Number: EECS166  
 Department: Elec. Eng. & Computer Sci.  
 Program or Curriculum: Solar Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Elec'l Generation, Central

**Solar Electric Systems A**

Instructor: Smith, O.J.H.  
 (415) 642-7591  
 Course Number: EECS215A  
 Department: Elec. Eng. & Computer Sci.  
 Program or Curriculum: Solar Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale

**Solar Electric Systems B**

Instructor: Smith, O.J.H.  
 (415) 642-7591  
 Course Number: EECS215B  
 Department: Elec. Eng. & Computer Sci.  
 Program or Curriculum: Solar Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale

**Solar Energy**

Instructor: Merriam, M.F.  
 (415) 642-3664  
 Course Number: E 161  
 Department: Engineering  
 Program or Curriculum: Solar Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Central Systems  
 Number of Times Taught: 8  
 Average Enrollment: 75

**Solar Energy Materials**

Instructor: Merriam, M. F.  
 (415) 642-3664  
 Course Number: MSME290G  
 Department: Mat. Sci. and Mineral Eng.  
 Program or Curriculum: Solar Engineering  
 Credits: 2  
 Student Level: College Graduate  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 20  
 Topics Covered Extensively: Materials Research; Photovoltaics  
 Number of Times Taught: 5  
 Average Enrollment: 12

**Solar Energy Seminar**

Instructor: Merriam, M. F.  
 (415) 642-3664  
 Course Number: E298-2  
 Department: Engineering  
 Program or Curriculum: Solar Engineering  
 Credits: 1  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 20  
 Topics Covered Extensively: Solar Economics  
 Number of Times Taught: 12  
 Average Enrollment: 40

**Thermal Ener. Aspects in Plan. and Des.**

Instructor: Parman, John  
 (415) 642-4811  
 Department: Environmental Design  
 Student Level: College Graduate  
 Duration: 2.0 Days, 6.0 hrs per day  
 Contact Hours: 12  
 Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar

Technology; Solar System Components;  
Domestic Hot Water; Space Heating;  
Space Cooling; Wind Power, Small  
Systems

Number of Times Taught: 1  
Average Enrollment: 14

**Thermal Radiation ME253**

Instructor: Daily, John W.  
(415) 642-0238  
Course Number: ME253  
Department: Mechanical Engineering  
Program or

Curriculum: Solar Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Heat and  
Energy Transfer  
Number of Times Taught: 7  
Average Enrollment: 28

**Wind Energy**

Instructor: Pike, Nanette  
(415) 642-4151  
Department: Continuing Education in  
Engineering  
Student Level: College Graduate  
Duration: 1 Week, 8.0 hrs per week  
Contact Hours: 8  
Topics Covered Extensively: Wind Power,  
Central Systems; Wind Power, Small  
Systems  
Number of Times Taught: 2  
Average Enrollment: 35

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CAL- DAVIS, U OF  
DAVIS, California 95616  
(916) 752-1011

**PROGRAMS AND CURRICULA****Graduate Solar Energy**

Degree: MA, MS, Atmospheric Sciences  
Contact: Coulson, Kinell  
(916) 752-1450

Students Taking or Completing Offering:  
Educator, Researcher

**SOLAR RELATED COURSES****Radiation Instrumentation and Measurement**

Instructor: Flocchini, R. G.  
(916) 752-7097  
Course Number: 128  
Department: Atmospheric Science  
Program or  
Curriculum: Graduate Solar Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50

**Solar and Related Energy Sources**

Instructor: Flocchini, R. G.  
(916) 752-7097

Course Number: 203  
Department: Resource Science  
Program or  
Curriculum: Graduate Solar Energy  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Photovoltaics; Wind Power, Central  
Systems; Wind Power, Small Systems

**Solar Energy Applications**

Instructor: Flocchini, R. G.  
(916) 752-7097  
Course Number: 103  
Department: Resource Science  
Program or  
Curriculum: Graduate Solar Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30

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CAL- LOS ANGELES, U OF  
LOS ANGELES, California 90024  
(213) 825-4321

(1315)

**PROGRAMS AND CURRICULA****Architecture/Urban Design**

Degree: MA, OTHER, Architecture and  
Urban Planning  
Contact: Moore, Charles  
(213) 825-8959

Students Taking or Completing Offering:  
Architect, Educator, Researcher

**Ener. Conserving Des. Elective**

Sequence  
Degree: MA, OTHER, Architecture and  
Urban Planning  
Contact: Moore, Charles  
(213) 825-8950

Students Taking or Completing Offering:  
Architect, Researcher

**SOLAR RELATED COURSES****Building Climatology**

Instructor: Givoni, Baruch/ Milne,  
Murray  
(213) 825-7370  
Course Number: 442  
Department: Architecture/Urban  
Design  
Program or  
Curriculum: Ener. Conserving Des.  
Elective Sequence  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Heat and  
Energy Transfer; Solar Systems Design;

Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 40

**Heat and the Thermal Environment**

Instructor: Givoni, Baruch  
 (213) 825-2769  
 Course Number: 443  
 Department: Architecture and Urban Planning

Program or Curriculum: Ener. Conserving Des.  
 Elective Sequence  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Home Construction; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 6

**Introduction to Energy Conserving Design I**

Instructor: Schoen, Richard  
 (213) 825-1345  
 Course Number: 446,403  
 Department: Arch., Urb. Plan.-Arch.  
 Urb. Design

Program or Curriculum: Architecture/ Urban Design  
 Credits: 1  
 Student Level: College Graduate  
 Duration: 10 Weeks, 1.0 hrs per week  
 Contact Hours: 10  
 Classroom: 5  
 Laboratory: 5

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy; Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
 Number of Times Taught: 4  
 Average Enrollment: 10

**Introduction to Energy Conserving Design II**

Instructor: Schoen, Richard  
 (213) 825-1345  
 Course Number: 446,403  
 Department: Arch. Urb. Plan.-Arch.  
 Urb. Design

Program or Curriculum: Architecture/ Urban Design  
 Credits: 1  
 Student Level: College Graduate

Duration: 10 Weeks, 1.0 hrs per week  
 Contact Hours: 10  
 Classroom: 5  
 Laboratory: 5

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy; Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
 Number of Times Taught: 4  
 Average Enrollment: 10

**Introduction to Energy Conserving Design III**

Instructor: Schoen, Richard  
 (213) 825-1345  
 Course Number: 446,403  
 Department: Arch. Urb. Plan.-Arch.  
 Urb. Design

Program or Curriculum: Architecture/ Urban Design  
 Credits: 1  
 Student Level: College Graduate  
 Duration: 10 Weeks, 1.0 hrs per week  
 Contact Hours: 10  
 Classroom: 5  
 Laboratory: 5

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy; Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
 Number of Times Taught: 4  
 Average Enrollment: 10

**New Ener. Tech.-Res. Conv. Constraints**

Instructor: Buchberg, H.  
 Course Number: 134A  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion  
 Number of Times Taught: 5  
 Average Enrollment: 20

**Proj. in Arch.: Computer Aided Design**

Instructor: Milne, Murray  
 (213) 825-7370

Course Number: 403G  
 Department: Architecture and Urban Planning  
 Program or Curriculum: Ener. Conserving Des. Elective Sequence  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 10  
 Laboratory: 30  
 Topics Covered Extensively: Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 3

**Solar Energy Use and Control**

Instructor: Buchberg, H.  
 (213) 825-5313  
 Course Number: 134B  
 Department: Chem, Nucl, Therm, Engr, Appl. Sci.  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation  
 Number of Times Taught: 4  
 Average Enrollment: 17

**Topics in Thermal Design**

Instructor: Buchberg, H./ Mills, A.  
 (213) 825-5313  
 Course Number: 234A  
 Department: Chem, Nucl, Ther, Engr, Appl. Sci.  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Heat and Energy Transfer  
 Number of Times Taught: 8  
 Average Enrollment: 8

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CAL- RIVERSIDE, U OF  
 RIVERSIDE, California 92521  
 (714) 787-1012

(1316)

**SOLAR RELATED COURSES****Calif. Solar Energy Tax Credit**

Instructor: Thiebaut, Brian  
 (714) 787-4101  
 Course Number: 888.31  
 Department: University Extension  
 Student Level: All levels  
 Duration: 1 Weeks, 5.0 hrs per week  
 Contact Hours: 5

Classroom: 5  
 Topics Covered Extensively: Solar Law/Legislation; Solar Collector Evaluation/Design

**Designing Standard Frame House for Solar Energy**

Instructor: Thiebaut, Brian  
 (714) 787-4101  
 Course Number: 888.3  
 Department: University Extension  
 Credits: 1  
 Student Level: All levels  
 Duration: 1 Weeks, 3.0 hrs per week  
 Contact Hours: 3  
 Classroom: 3  
 Topics Covered Extensively: Solar Home Construction; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling

**Energy: Its Impact on the U.S. Economy**

Instructor: Thiebaut, Brian  
 (714) 787-4101  
 Course Number: X421  
 Department: University Extension  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Marketing/Market Analysis; Solar Economics

**Refitting Your Home to Save Water, Energy, & Money**

Instructor: Richter, Jean  
 (714) 787-4361  
 Department: University Extension  
 Student Level: All levels  
 Duration: 1 Weeks, 9.0 hrs per week  
 Contact Hours: 9  
 Classroom: 9  
 Topics Covered Extensively: Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling

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CAL- SAN DIEGO, U OF  
 LA JOLLA, California 92093  
 (714) 452-2230

(1317)

**SOLAR RELATED COURSES****Ener. Cons. Through Arch. Design**

Instructor: Quigley, Rob  
 Course Number: 805.6  
 Department: Professional Programs  
 Student Level: College Graduate  
 Duration: 5 Weeks, 2.5 hrs per week  
 Contact Hours: 13  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling



Number of Times Taught: 3

**Solar Energy For Your Home**

Instructor: Mayer, Greg  
Course Number: B05.5  
Department: Professional Programs  
Student Level: College Graduate  
Duration: 5 Weeks, 2.5 hrs per week  
Contact Hours: 13

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Number of Times Taught: 3

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CAL- SANTA BARBARA, U OF (1320)  
SANTA BARBARA, California 93106  
(805) 961-2311

**SOLAR RELATED COURSES**

**Solar Energy**

Instructor: Manalis, Mel  
(805) 961-2896  
Course Number: ES105  
Department: Environmental Studies  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 5  
Average Enrollment: 75

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CAL- SANTA CRUZ, U OF (1321)  
SANTA CRUZ, California 95064  
(408) 429-0111

**SOLAR RELATED COURSES**

**\*Alternate Energy Sources**

Instructor: Scott, Peter  
Course Number: ES428  
Department: Environmental Studies  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy

Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design

**\*The Sun**

Instructor: Menger, Eva/ Hammond, George  
Course Number: OAKES 38  
Department: Oakes College  
Topics Covered Extensively: Intro. to Solar Energy

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COGSWELL COLLEGE (1177)  
SAN FRANCISCO, California 94108  
(415) 433-1994

**SOLAR RELATED COURSES**

**Solar Energy Appls. for Bldg.**

Instructor: Sartor, Dale  
(415) 236-7436  
Course Number: CT 431  
Department: Civil Engineering Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 3  
Average Enrollment: 20

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HARVEY MUDD COLLEGE (1171)  
CLAREMONT, California 91711  
(714) 626-8511

**SOLAR RELATED COURSES**

**Freshman Projects**

Instructor: Wolf, Robert  
(714) 621-8000  
Course Number: FY 4  
Department: Freshman Division  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 7 Weeks, 3.0 hrs per week  
Contact Hours: 21  
Classroom: 21

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology;



Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Space Heating

Number of Times Taught: 2  
Average Enrollment: 30

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**HUMBOLDT STATE U**  
ARCATA, California 95521  
(707) 826-3011

(1149)

#### SOLAR RELATED COURSES

##### *Solar Energy: Thermal Processes*

Instructor: Borgers, Tom R.  
(707) 826-3255

Course Number: ENGR. 184  
Department: Engr./Chem.  
Credits: 3

Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30

Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 7

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**LA VERNE COLLEGE**  
LA VERNE, California 91750  
(714) 593-3511

(1216)

#### SOLAR RELATED COURSES

##### *Energy Colloquium*

Instructor: Green, Richard H.  
(714) 593-3511

Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Passive Solar  
Technology; Photovoltaics; Solar Energy  
Policy Development; Solar Economics;  
Solar Law/Legislation; Wind Power,  
Small Systems

##### *Energy Options*

Instructor: Arnold, Geo.  
(714) 593-7792

Course Number: PHYSICS  
Department: Physics  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy  
Number of Times Taught: 1  
Average Enrollment: 15

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**LOMA LINDA UNIVERSITY**  
LOMA LINDA, California 92354  
(714) 796-7311

(1218)

#### SOLAR RELATED COURSES

##### *Practical Solar Energy*

Instructor: Walls, Art  
(714) 785-2218

Course Number: INDS 283  
Department: Industrial Studies  
Credits: 4  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design  
Number of Times Taught: 2  
Average Enrollment: 9

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**LOYOLA MARYMOUNT U**  
LOS ANGELES, California 90045  
(213) 642-2700

(11649)

#### SOLAR RELATED COURSES

##### *Thermal Aspects of Design*

Instructor: Callinan, J. P.  
(213) 642-2827

Course Number: ME 571  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 10

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**NEW COLLEGE OF CALIFORNIA**  
SAN FRANCISCO, California 94110  
(415) 626-1694

(10831)

#### PROGRAMS AND CURRICULA

##### *Econ., Ener., -Formation of World Conscious*

Degree: MA, BA, Humanities-Energy,  
Economics, Design  
Contact: Beru, Jelaeddin  
(415) 626-1694

Students Taking or Completing Offering:  
Educator, Researcher, Trade Specialty

## SOLAR RELATED COURSES

*Econ., Ener., Formation of World Conscious*

Instructor: George Bryon  
(415) 231-9466  
Department: Humanities  
Program or Curriculum: Econ., Ener., Formation of World Conscious  
Credits: 3  
Student Level: Junior or Senior  
Duration: 18 Weeks, 6.0 hrs per week  
Contact Hours: 108  
Classroom: 70  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Solar Energy Policy Development; Solar Economics; Solar Systems Testing and Evaluation  
Number of Times Taught: 2  
Average Enrollment: 20

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## NORTHROP UNIVERSITY

(1248)

INGLEWOOD, California 90306  
(213) 776-3410

## PROGRAMS AND CURRICULA

*Energy Systems Engineering*

Degree: BS, Science, Energy Systems Engineering  
Contact: Pelka, David G.  
(213) 641-3470  
Students Taking or Completing Offering: Researcher, Solar Engineer

## SOLAR RELATED COURSES

*Energy Conservation*

Instructor: Eytal, L. S.  
(213) 641-3470  
Course Number: ES431  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation

*Energy Control Systems*

Instructor: Pelka, D. G.  
(213) 641-3470  
Course Number: ES436  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Solar Systems Testing and Evaluation

*Energy Design Systems I*

Instructor: Jacowitz, Lawrence  
(213) 641-3470  
Course Number: ES471  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 20  
Laboratory: 30  
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

*Energy Policy*

Instructor: Pelka, D. G.  
(213) 641-3470  
Course Number: ES421  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Solar Energy Policy Development; Solar Law/Legislation

*Energy Systems Design II*

Instructor: Jacowitz, Lawrence  
(213) 641-3470  
Course Number: ES472  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 20  
Laboratory: 30  
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

*Energy Systems Design III*

Instructor: Jacowitz, Lawrence  
(213) 641-3470  
Course Number: ES473  
Department: Energy Systems Engineering  
Program or Curriculum: Energy Systems Engineering

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 20  
 Laboratory: 30  
 Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

**Environmental Systems**

Instructor: Pelka, D. G.  
 (213) 641-3470  
 Course Number: ES352  
 Department: Energy Systems Engineering

Program or Curriculum: Energy Systems Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Appropriate Technology

**Law and Energy Applications**

Instructor: Pelka, D. G.  
 (213) 641-3470  
 Course Number: ES433  
 Department: Law School  
 Program or Curriculum: Energy Systems Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate Energy Sources; Solar Law/Legislation

**Photovoltaic Technology**

Instructor: Pelka, D. G.  
 (213) 641-3470  
 Course Number: ES 311  
 Department: Energy Systems Engineering  
 Program or Curriculum: Energy Systems Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 6.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Energy Conversion; Photovoltaics; Elec'l Generation, Small Scale  
 Number of Times Taught: 1  
 Average Enrollment: 10

**Solar Energy Systems I**

Instructor: Jacowitz, Lawrence  
 (213) 641-3470  
 Course Number: ES321  
 Department: Energy Systems Engineering

Program or Curriculum: Energy Systems Engineering

Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 6.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30

Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 3

**Solar Energy Systems II**

Instructor: Jacowitz, Lawrence  
 (213) 641-3470  
 Course Number: ES401  
 Department: Energy Systems Engineering

Program or Curriculum: Energy Systems Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 6.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30

Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale  
 Number of Times Taught: 2  
 Average Enrollment: 8

**Wind Machine Design & Operation**

Instructor: Lord, Paul  
 (213) 641-3470  
 Course Number: ES441  
 Department: Energy Systems Engineering

Program or Curriculum: Energy Systems Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40

Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 1

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REDLANDS, UNIVERSITY OF  
REDLANDS, California 92373  
(714) 793-2121

(1322)

## SOLAR RELATED COURSES

*\*Energy Alt. - Priorities, Policies*

Instructor: Krantz, Reinhold J.  
(714) 793-2121

Course Number: 25

Department: Arts & Sci. - Eng'r

Topics Covered Extensively: Alternate

Energy Sources; Solar Economics

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SAN DIEGO STATE U  
SAN DIEGO, California 92182  
(714) 286-5000

(1151)

## SOLAR RELATED COURSES

*Energy: Issues and Ideas*

Instructor: Craig, George T.  
(714) 286-6067

Course Number: E-360

Department: Mechanical Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42

Topics Covered Extensively: Alternate

Energy Sources; Appropriate Technology;

Energy Conversion; Intro. to Solar

Energy; Passive Solar Technology; Solar

Economics

Number of Times Taught: 1

Average Enrollment: 20

*Solar Energy*

Instructor: Thompson, Willis H.  
(714) 286-4682

Course Number: NS 496

Department: Natural Science

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Energy

Conservation; Energy Storage; Heat and

Energy Transfer; Intro. to Solar

Energy; Passive Solar Technology; Solar

System Components; Solar Collector

Evaluation/Design; Domestic Hot Water;

Space Heating

Number of Times Taught: 2

Average Enrollment: 34

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SAN FRANCISCO STATE U  
SAN FRANCISCO, California 94132  
(415) 469-2141

(1154)

## SOLAR RELATED COURSES

*\*Design of Solar Energy Systems*

Instructor: Warren, M.

Course Number: ENGR 584

Department: Science, Eng'r

Credits: 3

Topics Covered Extensively: Energy

Conservation; Intro. to Solar Energy;

Solar System Components; Solar

Economics; Solar Collector

Evaluation/Design; Solar Systems

Design; Domestic Hot Water; Space

Heating

*\*Intro. to Solar Energy Systems*

Instructor: Warren, M.

Course Number: ENGR 582

Department: Science, Eng'r

Credits: 3

Topics Covered Extensively: Energy

Conservation; Intro. to Solar Energy;

Passive Solar Technology; Solar System

Components; Solar Economics; Solar Home

Construction; Solar Collector

Evaluation/Design; Solar Systems Design

*\*Seminar in Science and Society*

Instructor: Shapiro, C.

Course Number: PHYS 600

Department: Science, Physics

Credits: 3

Student Level: Freshman or Sophomore

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SAN FRANCISCO, U OF  
SAN FRANCISCO, California 94117  
(415) 666-0600

(1325)

## PROGRAMS AND CURRICULA

*Environmental Planning & Management*

Degree: MS, Environm. Plan. and

Management

Contact: Petulla, Joseph M.

(415) 666-6254

## SOLAR RELATED COURSES

*Ecoscience*

Instructor: Gruhn, Thomas  
(415) 666-6208

Course Number: IDS 250

Department: Continuing Education

Program or

Curriculum: Environmental Planning

& Management

Credits: 4

Student Level: College Graduate

Duration: 14 Weeks, 4.0 hrs per week

Contact Hours: 56

**Energy For The Future**

Instructor: Albergotti, J. C.  
(415) 666-6144  
Course Number: 121  
Department: Science/Nat. Sci.  
Credits: 3  
Student Level: All levels  
Duration: 4 Weeks, 12.0 hrs per week  
Contact Hours: 48  
Classroom: 32  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling; Wind Power; Small Systems  
Number of Times Taught: 1  
Average Enrollment: 13

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**SAN JOSE STATE U** (1155)  
SAN JOSE, California 95192  
(408) 277-2000

**PROGRAMS AND CURRICULA****Solar Design/Engineering**

Degree: BA, BS, Environ. Studies -  
Solar Emphasis  
Contact: Aitken, Donald  
(408) 277-3107

Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****Solar Energy Theory**

Instructor: Aitken, Donald  
(408) 277-3107  
Course Number: ES116  
Department: Environmental Studies  
Program or Curriculum: Solar Design/  
Engineering  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 100

**Solar Energy Workshop**

Instructor: Aitken, Donald  
(408) 277-3107  
Course Number: 186  
Department: Environmental Studies  
Program or Curriculum: Solar Design/  
Engineering  
Credits: 3

Student Level: Junior or Senior  
Duration: 15 Weeks, 9.0 hrs per week  
Contact Hours: 135  
Classroom: 45  
Number of Times Taught: 3  
Average Enrollment: 25

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**SANTA CLARA, UNIVERSITY OF** (1326)  
SANTA CLARA, California 95053  
(408) 984-4242

**SOLAR RELATED COURSES****Solar Energy for Heating and Cooling I**

Instructor: Wedel, Roger  
(415) 493-4411  
Course Number: ME 244  
Department: Mech. Eng'r  
Credits: 2  
Student Level: College Graduate  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
Number of Times Taught: 5  
Average Enrollment: 25

**Solar Energy for Heating and Cooling II**

Instructor: Wedel, Roger  
(415) 493-4411  
Course Number: ME 244  
Department: Mech. Eng'r  
Credits: 2  
Student Level: College Graduate  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
Number of Times Taught: 5  
Average Enrollment: 25

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**SOUTHERN CALIFORNIA, U OF** (1328)  
LOS ANGELES, California 90007  
(213) 741-2311

**PROGRAMS AND CURRICULA****Special Probs. in Solar Energy**

Degree: PhD, MS  
Students Taking or Completing Offering:  
Solar Engineer, Researcher

## SOLAR RELATED COURSES

*Sol. Ener. Conversion Sys. Des.*

Instructor: Lampert, Seymour  
(213) 741-2944  
Course Number: ME 499  
Department: Mechanical Engineering  
Program or Curriculum: Special Probs. in Solar Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 18

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## STANFORD UNIVERSITY

(1305)

STANFORD, California 94305  
(415) 497-2300

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Ferziger  
(415) 497-3148  
Course Number: ME 255  
Department: Mech. Engineering  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 4  
Average Enrollment: 30

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## Community/Junior Colleges

## AMERICAN RIVER COLLEGE

(9552)

SACRAMENTO, California 95841  
(916) 484-8011

## SOLAR RELATED COURSES

*\*Alternative Energy Courses*

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ANTELOPE VALLEY COLLEGE  
LANCASTER, California 93534  
(805) 947-0160

(1113)

## SOLAR RELATED COURSES

*Air Cond./Refrig. A*

Instructor: Ford, Chuck  
(805) 943-3241  
Course Number: ACR 43A  
Department: Technical Education  
Credits: 5  
Student Level: All levels  
Duration: 18 Weeks, 10.0 hrs per week  
Contact Hours: 180  
Number of Times Taught: 12  
Average Enrollment: 24

*Air Cond./Refrig. B*

Instructor: Ford, Chuck  
(805) 943-3241  
Course Number: ACP 43B  
Department: Technical Education  
Credits: 5  
Student Level: All levels  
Duration: 18 Weeks, 10.0 hrs per week  
Contact Hours: 180  
Number of Times Taught: 12  
Average Enrollment: 24

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## BAKERSFIELD COLLEGE

(1118)

BAKERSFIELD, California 93305  
(805) 395-4011

## SOLAR RELATED COURSES

*Solar Heat. and Cool. of Res. Bldgs.*

Instructor: Tuttle, Robert E.  
(805) 395-4571  
Course Number: SOLAR I  
Department: Industrial Education  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 48  
Laboratory: 6  
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
Average Enrollment: 35

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**BUTTE COLLEGE**

(18073)

OROVILLE, California 95965,  
(916) 895-2511

**SOLAR RELATED COURSES****Solar Energy Systems**

Instructor: Peters, Mary  
(916) 877-8308  
Course Number: TEC 280  
Department: Technology  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Intro. to  
Solar Energy; Passive Solar Technology;  
Solar System Components; Solar  
Economics; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Swimming Pool Heating  
Number of Times Taught: 2  
Average Enrollment: 28

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**CABRILLO COLLEGE**

(1124)

APTOS, California 95003  
(408) 425-6000

**PROGRAMS AND CURRICULA****Solar Technology**

Degree: AD, Science  
Contact: Burton, Dave  
(408) 425-6304

Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****Alt. Energy Systems (Sol. Tech.)**

Course Number: CET60ABCD  
Department: Indust. - Elect. Tech.  
Program or  
Curriculum: Solar Technology  
Credits: 8  
Student Level: All levels  
Duration: 16 Weeks, 15.0 hrs per week  
Contact Hours: 240  
Classroom: 80  
Laboratory: 160

Topics Covered Extensively: Alternate  
Energy Sources; Materials Research;  
Solar System Components; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation

**Appl. of Solar Ener. in Agric.**

Course Number: CET 61  
Program or  
Curriculum: Solar Technology  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 5.0 hrs per week  
Contact Hours: 80  
Classroom: 32

**Laboratory: 48**

Topics Covered Extensively: Biomass  
Conversion; Energy Conservation; Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Passive Solar  
Technology; Solar System Components;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Process Heat,  
Agricultural

**Solar Architecture**

Course Number: CET 62  
Program or  
Curriculum: Solar Technology  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 5.0 hrs per week  
Contact Hours: 80  
Classroom: 32  
Laboratory: 48  
Topics Covered Extensively: Energy  
Conservation; Passive Solar Technology;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating

**Solar Electronics**

Course Number: CET 53  
Department: Indust. - Elect. Tech.  
Program or  
Curriculum: Solar Technology  
Credits: 2  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively:  
Photovoltaics; Solar System Components;  
Domestic Hot Water; Elec'l Generation,  
Central; Elec'l Generation, Small Scale

**Solar Energy in Agriculture**

Course Number: CET 54  
Program or  
Curriculum: Solar Technology  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32  
Topics Covered Extensively: Biomass  
Conversion; Intro. to Solar Energy;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Process Heat,  
Agricultural; Space Heating

**Solar Energy in Bldg. Design**

Course Number: CET 52  
Department: Indust. - Elect. Tech.  
Program or  
Curriculum: Solar Technology  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Topics Covered Extensively: Energy

Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design

**Solar Energy Tech. & Fabrication**

Course Number: CET 50 ABCD  
Department: Industrial - Electrical Technology

Program or Curriculum: Solar Technology  
Credits: 8  
Student Level: All levels  
Duration: 16 Weeks, 12.0 hrs per week  
Contact Hours: 192  
Laboratory: 192  
Topics Covered Extensively: Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Solar Retrofitting & Weatherizing**

Course Number: CET 51  
Department: Industrial - Electrical Technology

Program or Curriculum: Solar Technology  
Credits: 8  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy Conversion; Energy Storage; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

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CERRO COSO CITY COLLEGE (10111)  
RIDGECREST, California 93555  
(714) 375-5001

**PROGRAMS AND CURRICULA****\*Solar Engineering Technology**

Degree: AD, Appl. Sci. - Sol Eng'r Tech  
Contact: Dodge, Dick  
(714) 375-5001

Students Taking or Completing Offering:  
Solar Technician

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CHADOT COLLEGE-VALLEY CAMPUS (90160)  
3033 Collier Canyon Road  
Livermore, California 94550  
(415) 455-5300

**SOLAR RELATED COURSES****Solar Design Fundamentals**

Instructor: Deleray, Arthur  
(415) 455-5300  
Course Number: 24  
Department: Physical Science  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Solar Heat for You**

Instructor: Deleray, Arthur  
(415) 455-5300  
Course Number: 24  
Department: Physical Science  
Credits: 2  
Student Level: All levels  
Duration: 12 Weeks, 2.0 hrs per week  
Topics Covered Extensively: Passive Solar Technology; Solar System Components; Swimming Pool Heating; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 40

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**CHAFFEY COLLEGE**

(1163)

ALTA LOMA, California 91701  
(714) 987-1737

**SOLAR RELATED COURSES****\*Solar Energy I**

Instructor: Rothwell, Robert  
Course Number: 507  
Department: Indus. Tech.  
Duration: 12 Weeks, 6.0 hrs per week  
Contact Hours: 72  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

**\*Solar Energy II**

Instructor: Rothwell, Robert  
Course Number: 508  
Department: Indus. Tech.  
Duration: 12 Weeks, 6.0 hrs per week  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

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**CITRUS COLLEGE**AZUSA, California 91702  
(213) 335-0521

(1166)

**SOLAR RELATED COURSES****Alternate Energy Sources**

Instructor: Bratt, George  
 Course Number: 102  
 Department: Physical Sciences/Engineering  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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**COASTLINE CNTY COLLEGE**FOUNTAIN VALLEY, California 92708  
(714) 953-0811

(29027)

**PROGRAMS AND CURRICULA****\*Solar Technician**

Students Taking or Completing Offering:  
 Solar Technician

**SOLAR RELATED COURSES****\*Solar Seminar****\*Ten Courses in Energy Management**

Program or  
 Curriculum: Solar Technician

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**COLUMBIA JUNIOR COLLEGE**COLUMBIA, California 95310  
(209) 532-3141

(7707)

**SOLAR RELATED COURSES****\*Course on Alternate Energy**

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**COSUMES RIVER COLLEGE**SACRAMENTO, California 95823  
(916) 421-1000

(7536)

**PROGRAMS AND CURRICULA**

**Envir. Des. - Intro. Sol. Ener. Systems**  
 Degree: AD, Environmental Design  
 Contact: Papousek, Connie  
 Students Taking or Completing Offering:  
 Installer-Residential (Solar System),  
 Installer-Commercial (Solar System),  
 Solar Technician

**SOLAR RELATED COURSES****ED 47, Alternate Energy Systems**

Instructor: House, Harold  
 Course Number: 3108-01  
 Department: Environmental Design  
 Program or  
 Curriculum: Envir. Des. -Intro.  
 Sol. Ener. Systems  
 Credits: 2  
 Duration: 8 Weeks, 3.0 hrs per week  
 Contact Hours: 24  
 Classroom: 24  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Photovoltaics  
 Number of Times Taught: 3  
 Average Enrollment: 15

**Intro. to Solar Energy Systems**

Instructor: House, Harold  
 Course Number: ED 31  
 Department: Environmental Design  
 Program or  
 Curriculum: Envir. Des. -Intro.  
 Sol. Ener. Systems  
 Credits: 2  
 Duration: 4 Weeks, 16.0 hrs per week  
 Contact Hours: 64  
 Classroom: 48  
 Laboratory: 16  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

**Residential Energy Conservation**

Instructor: House, Harold  
 Course Number: 3105-01  
 Department: Environmental Design  
 Program or  
 Curriculum: Envir. Des. -Intro.  
 Sol. Ener. Systems  
 Credits: 2  
 Duration: 3 Weeks, 8.0 hrs per week  
 Contact Hours: 24  
 Classroom: 24  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive

# California

# Solar Energy Research Institute

Solar Technology; Solar Home  
Construction; Solar Systems Design;  
Domestic Hot Water; Space Heating;  
Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 15

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**CUESTA COLLEGE** (1192)  
SAN LUIS OBISPO, California 93406  
(805) 544-2943

## SOLAR RELATED COURSES

*App. of Solar Energy Systems*  
Instructor: Lago-Arsino, Peter  
(805) 543-2943  
Course Number: CT60  
Department: Construction Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 18 Weeks, 6.0 hrs per week  
Contact Hours: 108  
Classroom: 54  
Laboratory: 54  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 2  
Average Enrollment: 18

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**DE ANZA COLLEGE** (4480)  
CUPERTINO, California 95014  
(408) 996-4567

## SOLAR RELATED COURSES

*Design of Sol. Ener. Sys.-Heat. and Cool. A*  
Instructor: Wedell, R.  
(408) 493-4411  
Course Number: 379A  
Department: Engineering  
Credits: 2  
Student Level: All levels  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Number of Times Taught: 4  
Average Enrollment: 20

*Design of Sol. Ener. Sys.-Heat. and Cool. B*  
Instructor: Wedell, R.  
(408) 493-4411  
Course Number: 379B  
Department: Engineering  
Credits: 2  
Student Level: All levels  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Topics Covered Extensively: Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems Design

Number of Times Taught: 4  
Average Enrollment: 20

## Utilization of Solar Energy

Course Number: 369  
Department: Engineering  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 18  
Laboratory: 18

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**DESERT, COLLEGE OF THE** (1182)  
PALM DESERT, California 92260  
(714) 346-8041

## SOLAR RELATED COURSES

*Introduction to Solar Energy*  
Instructor: Marzicola, John  
(714) 346-8041  
Course Number: ARCH 13  
Department: Engineering and  
Technology  
Credits: 3  
Student Level: All levels  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 54  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Intro. to Solar  
Energy; Solar Home Construction; Solar  
Law/Legislation; Domestic Hot Water;  
Swimming Pool Heating; Space Heating;  
Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 42

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**DIABLO VALLEY COLLEGE** (1191)  
PLEASANT HILL, California 94523  
(415) 685-1230

## SOLAR RELATED COURSES

*Energy and Buildings*  
Course Number: 150  
Department: Arch./Engineering  
Credits: 3  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 48  
Laboratory: 48

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EVERGREEN VALLEY COLLEGE  
SAN JOSE, California 95121  
(408) 274-7900

(12452)

Number of Times Taught: 4  
Average Enrollment: 30

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## PROGRAMS AND CURRICULA

\*Solar Technician  
Students Taking or Completing Offering:  
Solar Technician

## SOLAR RELATED COURSES

\*Solar and Energy Seminar

\*Solar House

\*Two Courses on Solar

Program or

Curriculum: \*Solar Technician

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FEATHER RIVER COLLEGE  
QUINCY, California 95971  
(916) 283-0202

(8597)

## SOLAR RELATED COURSES

Solar Utilization and Energy-Wise Construction

Instructor: Martin, Bill

(916) 283-1197

Course Number: PHYS. SCI. 75

Department: Physical Science

Credits: 2

Student Level: All levels

Duration: 18 Weeks, 2.0 hrs per week

Contact Hours: 36

Classroom: 36

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 1

Average Enrollment: 15

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FOOTHILL COLLEGE  
LOS ALTOS HILLS, California 94022  
(415) 948-8590

(1199)

## SOLAR RELATED COURSES

Solar Energy

Instructor: Blanchard, Heinemann/

Schiavo

Course Number: ENV STUD

Department: Engineering & Technology

Credits: 4

Student Level: Freshman or Sophomore

Duration: 10 Weeks, 4.0 hrs per week

Contact Hours: 40

Topics Covered Extensively: Intro. to Solar Energy

FRESNO CITY COLLEGE  
FRESNO, California 93704  
(209) 442-4600

(1307)

## SOLAR RELATED COURSES

Solar Energy

Instructor: Mortensen, David  
(209) 442-8215

Course Number: S.S. 47

Department: Earth/Physical Science

Credits: 2

Student Level: All levels

Duration: 6 Weeks, 6.0 hrs per week

Contact Hours: 36

Classroom: 36

Topics Covered Extensively: Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water

Number of Times Taught: 2

Average Enrollment: 40

Solar Systems

Instructor: Wash, Dennis C.  
(209) 442-4600

Course Number: AC-55

Department: Technical-Industrial

Credits: 3

Student Level: All levels

Duration: 18 Weeks, 4.0 hrs per week

Contact Hours: 72

Classroom: 36

Laboratory: 36

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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FULLERTON COLLEGE  
FULLERTON, California 92634  
(714) 871-8000

(1201)

## SOLAR RELATED COURSES

\*Solar Heating

Topics Covered Extensively: Space Heating



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DAVILAN COLLEGE  
GILROY, California 95020  
(408) 847-1400

(1202)

## SOLAR RELATED COURSES

*Sol. Ener. H/Water Sys. Install.*

Instructor: Hansen, John  
(408) 847-1400  
Course Number: 66A  
Department: Occupational Education  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Classroom: 24  
Laboratory: 36

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating  
Number of Times Taught: 2  
Average Enrollment: 25

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GLENDALE CITY COLLEGE  
GLENDALE, California 91208  
(213) 240-1000

(1203)

## SOLAR RELATED COURSES

*\*Energy Alternatives*

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LONG BEACH CITY COLLEGE  
LONG BEACH, California 90808  
(213) 420-4111

(1219)

## PROGRAMS AND CURRICULA

*\*Air Cond. & Refrig.*

## SOLAR RELATED COURSES

*\*Solar Segment*  
Department: Air Cond. & Refrig.  
Program or Curriculum: \*Air Cond. & Refrig.

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LOS ANGELES PIERCE COLLEGE  
WOODLAND HILLS, California 91371  
(213) 347-0551

(1226)

## SOLAR RELATED COURSES

*\*Energy & Power*

Instructor: Duxler, William M.  
Course Number: PHY SC 13  
Department: Physics Engineering  
Duration: 18 Weeks  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

*\*Man & His Environ: Phys. Processes*

Instructor: Mayer, W. Craig  
(213) 347-0551  
Course Number: EN ST 1  
Department: Life & Earth Science  
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design

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LOS ANGELES TRADE TECH COLLEGE  
LOS ANGELES, California 90015  
(213) 746-0800

(1227)

## SOLAR RELATED COURSES

*Energy Management in Buildings*

Instructor: Adams, N.  
(213) 746-0800  
Course Number: EM 189  
Department: Electrical-Mechanical  
Credits: 3  
Student Level: High School Graduate  
Duration: 20 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer

*Solar Energy*

Instructor: Adams, N.  
(213) 746-0800  
Course Number: EMT 188  
Department: Electrical-Mechanical Dept.  
Credits: 3  
Student Level: High School Graduate  
Duration: 20 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 30

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MARIN, COLLEGE OF  
KENTFIELD, California 94904  
(415) 457-8811

(1178)

MODESTO JUNIOR COLLEGE  
MODESTO, California 95350  
(209) 526-2000

(1240)

## SOLAR RELATED COURSES

*Energy Efficient Design*

Instructor: Sartor, Dale  
Department: Adult Education  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 28  
Classroom: 20  
Laboratory: 8  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat; Industrial; Space Heating; Wind Power, Small Systems  
Number of Times Taught: 9  
Average Enrollment: 50

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MERCED COLLEGE  
MERCED, California 95340  
(209) 723-4321

(1237)

## SOLAR RELATED COURSES

*Residential Application-Solar Energy*

Instructor: Cox, James W.  
(209) 723-4321  
Course Number: IT-40  
Department: Industrial Technology  
Credits: 3  
Student Level: High School Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 254  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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## PROGRAMS AND CURRICULA

*External - Project Sunrise*

Contact: Wilson, E. William  
(209) 526-2000

## SOLAR RELATED COURSES

*Solar Energy Applications*

Instructor: Wilson, E. William  
(209) 526-2000

Course Number: PS 368  
Department: Dept. Engineering, Physical Science & Mathematics

Program or Curriculum: External - Project Sunrise

Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 42  
Laboratory: 6

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Small Systems

Number of Times Taught: 4  
Average Enrollment: 35

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MOORPARK COLLEGE  
MOORPARK, California 93021  
(805) 529-2321

(1715)

## SOLAR RELATED COURSES

*Solar Heating Construction Institute*

Instructor: Ainge, Ken  
(805) 529-2321  
Course Number: ET 85B  
Department: Technology  
Credits: 2  
Student Level: All levels  
Duration: 9 Weeks, 3.0 hrs per week  
Contact Hours: 27  
Classroom: 27

Topics Covered Extensively: Appropriate Technology; Domestic Hot Water

Number of Times Taught: 1  
Average Enrollment: 15

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**MOUNT SAN ANTONIO COLLEGE**  
WALNUT, California 91789  
(714) 598-2811

(1245)

**PROGRAMS AND CURRICULA****Air Cond., Heat., and Vent.**

Degree: AD, Air Cond., Heat. and  
Refrig.

Contact: Dillon, Clifford  
(714) 594-5611

Students Taking or Completing Offering:  
Electrician, Solar Technician,  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Plumber

**SOLAR RELATED COURSES****Solar and Alternate Energy Sources**

Instructor: Bormann, Jay  
(714) 594-5611

Course Number: 70

Department: Electronics

Program or

Curriculum: Air Cond., Heat., and  
Vent.

Credits: 3

Student Level: Freshman or Sophomore

Duration: 18 Weeks, 3.0 hrs per week

Contact Hours: 54

Classroom: 54

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Plumbing Techniques; Solar System  
Components; Solar Economics; Solar  
Systems Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Space Heating

**Solar Energy Systems Installation**

Instructor: Bormann, Jay  
(714) 594-5611

Course Number: 71/71L

Department: Electronics

Program or

Curriculum: Air Cond., Heat., and  
Vent.

Credits: 3

Student Level: Freshman or Sophomore

Duration: 18 Weeks, 6.0 hrs per week

Contact Hours: 108

Classroom: 54

Laboratory: 54

Topics Covered Extensively: Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation

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**MT SAN JACINTO COLLEGE**  
SAN JACINTO, California 92383  
(714) 654-7321

(1246)

**SOLAR RELATED COURSES****Solar Collector Design**

Instructor: Caldwell, B.  
(714) 654-7321

Course Number: ENGR 6

Department: Vocational Education

Credits: 3

Student Level: Freshman or Sophomore

Duration: 18 Weeks, 3.0 hrs per week

Contact Hours: 54

Classroom: 45

Laboratory: 9

Topics Covered Extensively: Solar System  
Components; Solar Collector  
Evaluation/Design

Number of Times Taught: 1

Average Enrollment: 34

**Solar Energy Applications**

Instructor: Caldwell, Benton  
(714) 654-7321

Course Number: ENGR 4

Department: Vocational Education

Credits: 3

Student Level: College Graduate

Duration: 18 Weeks, 3.0 hrs per week

Contact Hours: 54

Classroom: 49

Laboratory: 5

Topics Covered Extensively: Intro. to  
Solar Energy

Number of Times Taught: 2

Average Enrollment: 33

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**HAPA COLLEGE**  
HAPA, California 94558  
(707) 255-2100

(1247)

**SOLAR RELATED COURSES****Solar Energy Workshop**

Instructor: Dean, Anson R.  
(916) 758-4686

Department: Continuing Education

Student Level: All levels

Duration: 6 Weeks, 3.0 hrs per week

Contact Hours: 18

Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Solar System Components; Solar Home  
Construction; Solar Systems Design;  
Solar Systems Installation; Solar  
Systems Maintenance; Domestic Hot  
Water; Swimming Pool Heating

Number of Times Taught: 2

Average Enrollment: 50

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**OHLONE COLLEGE**  
FREMONT, California 94537  
(415) 657-2100

(4481)

**SOLAR RELATED COURSES****\*Two Courses on Solar**

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**ORANGE COAST COLLEGE**  
COSTA MESA, California 92626  
(714) 556-5651

(1250)

**SOLAR RELATED COURSES****Solar**

Instructor: Abernathy, Bill J.  
(714) 556-5812  
Course Number: 115  
Department: Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy; Solar  
System Components; Solar Economics;  
Space Heating  
Number of Times Taught: 2  
Average Enrollment: 30

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**PASADENA CITY COLLEGE**  
PASADENA, California 91106  
(213) 578-7123

(1261)

**SOLAR RELATED COURSES****\*Energy Sources, Resources & Uses**

Instructor: Ball, D.A.  
Course Number: EN100  
Department: Eng'r & Tech.  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Wind Power,  
Small Systems

**\*Solar Energy for the Consumer**

Instructor: Yanow, Gilbert  
(213) 578-7301  
Department: Eng'r. & Tech.  
Duration: 9 Weeks, 3.0 hrs per week  
Contact Hours: 27  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Swimming  
Pool Heating; Elec'l Generation, Small  
Scale; Space Heating

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**REDWOODS, COLLEGE OF THE**  
EUREKA, California 95501  
(707) 443-8411

(1185)

**SOLAR RELATED COURSES****Solar Heating A**

Instructor: Mills, David  
(707) 443-8411  
Course Number: ENSC 20A  
Department: Env. Sci.  
Credits: 1  
Student Level: All levels  
Duration: 12 Weeks, 1.0 hrs per week  
Contact Hours: 12  
Classroom: 12  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Photovoltaics; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 50

**Solar Heating B**

Instructor: Mills, David  
(707) 443-8411  
Course Number: ENSC 20B  
Department: Env. Sci.  
Credits: 1  
Student Level: All levels  
Duration: 12 Weeks, 1.0 hrs per week  
Contact Hours: 12  
Classroom: 12  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology;  
Photovoltaics; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 50

**Solar Heating C**

Instructor: Mills, David  
(707) 443-8411  
Course Number: ENSC 20C  
Department: Env. Sci.  
Credits: 1  
Student Level: All levels  
Duration: 12 Weeks, 1.0 hrs per week  
Contact Hours: 12  
Classroom: 12  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;

Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 50

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**RIVERSIDE CITY COLLEGE** (1270)  
 RIVERSIDE, California 92506  
 (714) 684-3240

#### SOLAR RELATED COURSES

##### Solar Energy Applications

Instructor: Budd, Frank W.  
 (714) 684-3240  
 Course Number: AC 52A  
 Department: Air Conditioning  
 Credits: 5  
 Student Level: All levels  
 Duration: 18 Weeks, 7.0 hrs per week  
 Contact Hours: 126  
 Classroom: 72  
 Laboratory: 54  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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**SACRAMENTO CITY COLLEGE** (1233)  
 SACRAMENTO, California 95822  
 (916) 449-7531

#### SOLAR RELATED COURSES

##### Basic Solar Heating and Cooling Systems

Instructor: Stockwell, Richard/  
 Goff, Don  
 (916) 449-7278

Course Number: MET 141  
 Department: Occupational Technology/Mechanical, Electrical Technology

Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Topics Covered Extensively: Energy Storage; Intro. to Solar Energy;

Materials Research; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling

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**SAN BERNARDINO VLY COLLEGE** (1272)  
 SAN BERNARDINO, California 92403  
 (714) 885-0231

#### SOLAR RELATED COURSES

##### \*Two Solar Courses

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**SAN DIEGO CC- CITY COLLEGE** (8895)  
 SAN DIEGO, California 92101  
 (714) 238-1181

#### PROGRAMS AND CURRICULA

\*Solar Ener. Main. and Tech  
 Degree: AD, Advanced Degree

#### SOLAR RELATED COURSES

\*Two Courses on Solar Energy Main., Tech.  
 Program or

Curriculum: \*Solar Ener. Main. and Tech.

Topics Covered Extensively: Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

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**SAN DIEGO CC- EVENING COLLEGE** (7478)  
 SAN DIEGO, California 92101  
 (714) 238-1181

#### PROGRAMS AND CURRICULA

Air Cond., Heat., Refrig., and Sol. Tech.

Degree: AD, OTHER, Air Cond., Heat., Refrig., & Sol. Tech.

Contact: Belker, Loren  
 (714) 238-1181

Students Taking or Completing Offering: Solar Technician, Trade Specialty

#### SOLAR RELATED COURSES

Adv. Sol. Ser. Main. and Tech.

Instructor: Theodora  
 (714) 238-1181

Course Number: 226

Department: City Campus  
 Program or Curriculum: Air Cond. Heat.,  
 Refrig. and Sol. Tech.

Credits: 3

Student Level: All levels  
 Duration: 18 Weeks, 3.0 hrs per week

Contact Hours: 54

Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Plumbing  
 Techniques; Solar System Components;  
 Solar Home Construction; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Domestic Hot Water;  
 Swimming Pool Heating; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 35

Air Cond., Heat., Refrig., and Sol. Ener.

Instructor: Faris, Theodore  
 (714) 238-1181

Course Number: 201

Department: City Campus

Program or

Curriculum: Air Cond., Heat.,  
 Refrig., and Sol. Tech.

Credits:

Student Level: All levels

Duration: 18 Weeks, 6.0 hrs per week

Contact Hours: 108

Classroom: 54

Laboratory: 54

Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Plumbing  
 Techniques; Solar System Components;  
 Solar Home Construction; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Domestic Hot Water;  
 Swimming Pool Heating; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 35

Sol. Ser. Main. and Tech.

Instructor: Faris, Theodore

(714) 238-1181

Course Number: 225

Department: City Campus

Program or

Curriculum: Air Cond., Heat.,  
 Refrig., and Sol. Tech.

Credits: 3

Student Level: All levels

Duration: 18 Weeks, 3.0 hrs per week

Contact Hours: 54

Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Plumbing  
 Techniques; Solar System Components;  
 Solar Home Construction; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems

Installation; Solar Systems  
 Maintenance; Domestic Hot Water;  
 Swimming Pool Heating; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 35

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SAN DIEGO CC- MESA COLLEGE  
 SAN DIEGO, California 92111  
 (714) 279-2300

(1275)

#### SOLAR RELATED COURSES

##### Utilization of Solar Energy

Instructor: Reeder, M.M.  
 (714) 279-2300

Course Number: 215

Department: Building Construction  
 Technology

Credits:

Student Level: Freshman or Sophomore

Duration: 18 Weeks, 6.0 hrs per week

Contact Hours: 108

Classroom: 54

Laboratory: 54

Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Passive Solar  
 Technology; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Solar Systems Testing and Evaluation;  
 Domestic Hot Water; Swimming Pool  
 Heating; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 25

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SAN JOAQUIN DELTA COLLEGE  
 STOCKTON, California 95207  
 (209) 478-2011

(1280)

#### SOLAR RELATED COURSES

##### \*Energy Conservation and Alternatives

Instructor: Oliver, James E.

Course Number: NR750

Department: Physics

Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30

Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Intro. to Solar Energy

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**SAN JOSE CITY COLLEGE**  
 SAN JOSE, California 95128  
 (408) 298-2181

(1282)

## PROGRAMS AND CURRICULA

**\*Solar Technician**

Degree: AD, Science  
 Contact: Herrick, Clyde R./Upton, S.  
 Students Taking or Completing Offering:  
 Solar Technician

**\*Solar Technician**

Degree: OTHER, Certificate of  
 Achievement  
 Contact: Herrick, Clyde/Upton, S.  
 Students Taking or Completing Offering:  
 Solar Technician

## SOLAR RELATED COURSES

**\*Solar Energy - Indust. Appl.**

Instructor: Upton, S.  
 Course Number: SOL 114  
 Department: Solar Technology  
 Program or  
 Curriculum: \*Solar Technician  
 Credits: 3

**\*Solar Energy - Res. Appl.**

Instructor: Upton, S.  
 Course Number: SOL 113  
 Department: Solar Technology  
 Program or  
 Curriculum: \*Solar Technician  
 Credits: 3

**\*Solar Photoelectric Conversion**

Instructor: Upton, S.  
 Course Number: SOL 116  
 Department: Solar Technology  
 Program or  
 Curriculum: \*Solar Technician  
 Credits: 2

**\*Solar Theory**

Instructor: Upton, S.  
 Course Number: PHYS 121  
 Program or  
 Curriculum: \*Solar Technician  
 Credits: 1

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**SANTA ANA COLLEGE**  
 SANTA ANA, California 92706  
 (714) 835-3000

(1284)

## SOLAR RELATED COURSES

**\*Three Solar Courses**

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**SEQUOIAS, COLLEGE OF THE**  
 VISALIA, California 93277  
 (209) 733-2050

(1186)

## SOLAR RELATED COURSES

**Solar Applications**

Instructor: Cottrell, Richard S.  
 (209) 733-2050  
 Course Number: PS 14  
 Department: Architecture/Science  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Passive Solar  
 Technology; Solar System Components;  
 Solar Home Construction; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems Testing  
 and Evaluation; Domestic Hot Water;  
 Space Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 25

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**SIERRA COLLEGE**  
 ROCKLIN, California 95677  
 (916) 624-3333

(1290)

## SOLAR RELATED COURSES

**Solar Energy Housing**

Course Number: WT6  
 Department: Wood Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Topics Covered Extensively: Energy  
 Conservation  
 Number of Times Taught: 4  
 Average Enrollment: 50

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**SISKIYOU, COLLEGE OF THE**  
 WEED, California 96094  
 (916) 938-4463

(1187)

## SOLAR RELATED COURSES

**\*Frontiers of Sci. - Envr. for Consumers**

Instructor: Crist, Friend, Dawson  
 Course Number: SCI 10  
 Department: Natural Science  
 Topics Covered Extensively: Alternate  
 Energy Sources; Solar Economics

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**SOUTHWESTERN COLLEGE**  
CHULA VISTA, California 92010  
(714) 420-1080

(1294)

**SOLAR RELATED COURSES****\*One Solar Course**

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**WEST VALLEY COLLEGE**  
SARATOSA, California 95070  
(408) 867-2200

(1338)

**SOLAR RELATED COURSES****Introduction of Solar Energy**

Instructor: Feamster, John  
(408) 925-3095  
Department: Engineering  
Credits: 3  
Student Level: All levels  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 54

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Number of Times Taught: 8  
Average Enrollment: 40

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**Other Educational Institutions**

**ANTIOCH COLLEGE/WEST**  
1161 Mission St.  
San Francisco, California 94103

(90520)

**PROGRAMS AND CURRICULA****\*Solar Energy & Design**

Degree: BA, MS, Envir. Studs. & Approp. Tech.  
Contact: Nelson, Lynn  
(415) 864-2570

**SOLAR RELATED COURSES****\*Courses in Des., Const. of Sol. Systems**

Instructor: Olkowski, Helga  
Department: Farallones Institute  
Program or Curriculum: \*Solar Energy & Design  
Topics Covered Extensively: Passive

Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

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**CENTER FOR EMPLOYMENT TRAINING** (90350)  
425 So. Market St.  
San Jose, California 95113

**SOLAR RELATED COURSES****\*Building Maintenance**

Instructor: Rodriguez, Rudolph  
Duration: 6 Weeks  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

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**OFFICE OF APPROPRIATE TECHNOLOGY** (90530)  
PO Box 1677  
Sacramento, California 95808

**PROGRAMS AND CURRICULA****\*Training Program for Installers**  
(916) 445-1803

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System)

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**SOLAR TECHNICIAN TRAINING PROGRAM -**  
**OFFICE OF APPROPRIATE TECHNOLOGY** (90340)  
1322 "O" Street  
Sacramento, California 95814

**PROGRAMS AND CURRICULA****\*Solar Technician Training Program**

Contact: Trujillo, JoAnn  
(916) 322-7190

Students Taking or Completing Offering:  
Solar Technician

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**SOLARCON** (90490)  
PO Box 14875  
San Francisco, California 94114

**SOLAR RELATED COURSES****\*Installers Workshop**

(415) 648-2159  
Department: Karellen Educational Services  
Topics Covered Extensively: Solar Systems Installation

## Colleges/Universities

**ADAMS STATE COLLEGE**  
ALAMOSA, Colorado 81102  
(303) 589-7346

(1345)

Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 6.0 hrs per week  
Classroom: 66  
Number of Times Taught: 14  
Average Enrollment: 6

## SOLAR RELATED COURSES

*Special Projects: Solar Heating*

Instructor: Spannagel, Larry  
(303) 589-3133  
Course Number: 1A 303  
Department: Industrial Arts  
Credits: 2  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Passive Solar Technology; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 13

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**COLO TECHNICAL COLLEGE**  
COLORADO SPRINGS, Colorado 80907  
(303) 598-0200

(10148)

## PROGRAMS AND CURRICULA

*Solar Engineering Technology*

Degree: BS, AD, Applied Science  
Contact: Christensen, Edward  
(303) 598-0200

Students Taking or Completing Offering:  
Solar Engineer, Solar Technician

## SOLAR RELATED COURSES

*Associate Seminar*

Instructor: Christensen, Edward  
(303) 598-0200  
Course Number: SOL 250  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 1.0 hrs per week  
Contact Hours: 11  
Topics Covered Extensively: Alternate Energy Sources

*Directed Practice*

Instructor: Christensen, Edward  
(303) 598-0200  
Course Number: SOL 299  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology

*Introduction to Energy*

Instructor: Sabo, Julius J.  
(303) 598-0200  
Course Number: SOL 100  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 3  
Student Level: All levels  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology  
Number of Times Taught: 10  
Average Enrollment: 15

*Solar Design I*

Instructor: Christensen, Edward  
(303) 598-0200  
Course Number: SOL 220  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 22  
Laboratory: 44  
Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
Number of Times Taught: 9  
Average Enrollment: 8

*Solar Design II*

Instructor: Christensen, Edward  
(303) 598-0200  
Course Number: SOL 221  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 22  
Laboratory: 44  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 9

Average Enrollment: 8

**Solar Science**

Instructor: Decker, Tom  
(303) 598-0200  
Course Number: SOL 200  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Intro. to Solar Energy  
Number of Times Taught: 12  
Average Enrollment: 10

**Solar Science II**

Instructor: Christensen, Edward  
(303) 598-0200  
Course Number: SOL 404  
Department: Solar Engineering Technology  
Program or Curriculum: Solar Engineering Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Heat and Energy Transfer; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation  
Number of Times Taught: 2  
Average Enrollment: 5

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COLO- COLO SPRINGS, U OF (4509)  
COLORADO SPRINGS, Colorado 80907  
(303) 598-3737

**PROGRAMS AND CURRICULA****Distributed Studies in Energy Science**

Degree: BA, Distributed Studies  
Contact: Blade, Richard A.  
(303) 598-3737  
Students Taking or Completing Offering:  
Researcher, Solar Engineer, Other,  
Solar Technician

**Solar Energy and Energy Sciences**

Degree: BS, Resource Systems Engineering  
Contact: Wiener, R.  
Students Taking or Completing Offering:  
Solar Engineer

**SOLAR RELATED COURSES****Introduction to Energy Sciences 150**

Instructor: Grogger, Scott P./ Blade, R.  
(303) 598-3737  
Course Number: 150  
Department: Physics and Energy Sciences  
Program or Curriculum: Distributed Studies in Energy Science  
Credits: 3  
Student Level: All levels  
Duration: 2 Weeks, 40.0 hrs per week  
Contact Hours: 80  
Classroom: 64  
Laboratory: 16  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 30

**Introduction to Energy Sciences 151**

Instructor: Scott, M./ Grogger, P./ Blade, R.  
(303) 598-3737  
Course Number: 151  
Department: Physics and Energy Sciences  
Program or Curriculum: Distributed Studies in Energy Science  
Credits: 3  
Student Level: All levels  
Duration: 2 Weeks, 40.0 hrs per week  
Contact Hours: 80  
Classroom: 64  
Laboratory: 16  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 30

**Methods of Energy Sciences 350**

Instructor: Grogger, P./ Blade, R.  
(303) 598-3737  
Course Number: 350  
Department: Physics and Energy Sciences  
Program or Curriculum: Distributed Studies in Energy Science  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 96  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer

Number of Times Taught: 1  
Average Enrollment: 15

**Methods of Energy Sciences 351**

Instructor: Grogger, P./ Blade, R.  
(303) 598-3737

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Course Number: 351  
Department: Physics and Energy Sciences

Program or Curriculum: Distributed Studies in Energy Science

Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 96

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer

Number of Times Taught: 1  
Average Enrollment: 15

**Solar Energy I**

Instructor: Scott, M.  
Course Number: 195  
Department: Physics and Energy Science

Program or Curriculum: Solar Energy and Energy Sciences

Credits: 3

**Solar Energy I, 160**

Instructor: Scott, Michael  
(303) 598-3737

Course Number: 160  
Department: Physics and Energy Science

Program or Curriculum: Distributed Studies in Energy Science

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 40  
Laboratory: 20

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Number of Times Taught: 7  
Average Enrollment: 30

**Solar Energy II**

Instructor: Scott, M.  
Course Number: 207  
Department: Physics & Energy Sci.

Program or Curriculum: Solar Energy and Energy Sciences

Grads: 3

**Solar Energy II, 360**

Instructor: Jones, Robert  
(303) 598-3737

Course Number: 360  
Department: Physics and Energy Sciences

Program or Curriculum: Distributed Studies in Energy Science

Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 2  
Average Enrollment: 24

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COLORADO AT BOULDER, U OF  
BOULDER, Colorado 80309  
(303) 492-0111

(1370)

**PROGRAMS AND CURRICULA****Joint Inst. for Lab. Astrophysics**

Contact: Hummer, David  
(303) 492-6787

Students Taking or Completing Offering:  
Educator, Researcher, Solar Engineer

**Lab for Atmospheric and Space Phys**

Contact: Barth, Charles A.  
(303) 492-7677

Students Taking or Completing Offering:  
Educator, Researcher, Solar Engineer

**Solar/Appropriate Technology**

Degree: BA, MA, Environmental Design  
Architecture

Contact: Holloway, Dennis R.  
(303) 492-7497

Students Taking or Completing Offering:  
Architect, Researcher, Contractor,  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System)

**SOLAR RELATED COURSES****Appropriate Technology 333**

Instructor: Holloway, Dennis R.  
(303) 492-7497

Course Number: ENVD 333  
Department: Environmental Design

Program or Curriculum: Solar/ Appropriate Technology



Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Classroom: 3  
 Laboratory: 8

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 50

**Appropriate Technology 334**

Instructor: Holloway, Dennis R.  
 (303) 492-7497  
 Course Number: ENVD 334  
 Department: Environmental Design  
 Program or Curriculum: Solar/ Appropriate Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Classroom: 24  
 Laboratory: 66

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 50

**Community Design**

Instructor: Holloway, Dennis R.  
 (303) 492-7497  
 Course Number: 300  
 Department: Environmental Design  
 Program or Curriculum: Solar/ Appropriate Technology  
 Credits: 6  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 8.0 hrs per week  
 Contact Hours: 120  
 Classroom: 24  
 Laboratory: 96

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Home Construction;

**Solar Law/Legislation**

Number of Times Taught: 2  
 Average Enrollment: 40

**Computer-Aided Thermal Design**

Instructor: Johnson, Herbert  
 (303) 492-6648  
 Course Number: 458  
 Department: Mechanical Engineering  
 Program or Curriculum: Lab for Atmospheric and Space Phys., Joint Inst. for Lab. Astrophysics

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Solar System Components; Solar Systems Design

**Energy in a Technical Society**

Instructor: Bartlett, David  
 (303) 492-6960  
 Course Number: 207  
 Department: Arts and Sci., Phys./Astrophysics  
 Program or Curriculum: Joint Inst. for Lab. Astrophysics, Lab for Atmospheric and Space Phys.

Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 7  
 Average Enrollment: 50

**Energy Conversion**

Instructor: Johnson, Herbert  
 (303) 492-6648  
 Course Number: 455  
 Department: Engineering, Mechanical Engineering

Program or Curriculum: Lab for Atmospheric and Space Phys., Joint Inst. for Lab. Astrophysics

Credits: 3

Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer;

Electrical Generation, Central  
 Number of Times Taught: 10  
 Average Enrollment: 25

#### Energy Utilization

Instructor: Krenz, Jerrold  
 (303) 492-7925  
 Course Number: 496  
 Department: Engineering/Electrical  
 Engineering

Program or  
 Curriculum: Joint Inst. for Lab.  
 Astrophysics, Lab. for  
 Atmospheric and Space  
 Phys.

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion; Heat and Energy  
 Transfer; Intro. to Solar Energy  
 Number of Times Taught: 6  
 Average Enrollment: 25

#### Solar Energy Utilization

Instructor: Kreith, Frank/ West,  
 Ron  
 (303) 492-7471  
 Course Number: 405/505  
 Department: Engineering/Chemical  
 Engineering

Program or  
 Curriculum: Lab. for Atmospheric and  
 Space Phys., Joint  
 Inst. for Lab.  
 Astrophysics

Credits: 3  
 Student Level: College Graduate  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Solar  
 Collector Evaluation/Design; Solar  
 Systems Design  
 Average Enrollment: 45

#### Solar Technology

Instructor: Holloway, Dennis R.  
 (303) 492-7497  
 Course Number: ENVD 332  
 Department: Environmental Design  
 Program or

Curriculum: Solar/ Appropriate  
 Technology

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 12  
 Laboratory: 33

Topics Covered Extensively: Alternate

Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Heat and Energy Transfer; Intro. to  
 Solar Energy; Materials Research;  
 Passive Solar Technology; Solar Home  
 Construction; Solar Systems Design;  
 Solar Systems Installation; Domestic  
 Hot Water; Space Heating

Number of Times Taught: 2  
 Average Enrollment: 130

#### Sun and Solar Energy

Instructor: Malville, J. McKim  
 (303) 492-8913

Course Number: 321  
 Department: Arts and Sci.  
 Astrogeophysics

Program or  
 Curriculum: Lab for Atmospheric and  
 Space Phys., Joint  
 Inst. for Lab.  
 Astrophysics

Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 38  
 Laboratory: 10

Topics Covered Extensively: Intro. to  
 Solar Energy; Photovoltaics; Solar  
 Collector Evaluation/Design  
 Number of Times Taught: 1  
 Average Enrollment: 120

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COLORADO SCHOOL OF MINES  
 GOLDEN, Colorado 80401  
 (303) 279-0300

(1348)

#### SOLAR RELATED COURSES

##### Principles of Solar Energy Systems

Instructor: Mathews, Frank S.  
 (303) 279-0300

Course Number: PH419  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer;  
 Photovoltaics; Solar System Components;  
 Solar Collector Evaluation/Design;  
 Solar Systems Design; Solar Systems  
 Testing and Evaluation; Electrical  
 Generation, Central

Number of Times Taught: 3  
 Average Enrollment: 20

##### Renewable Energy Sources

Instructor: Miller, Sam  
 (303) 279-0300

Course Number: BE479  
 Department: Basic Engineering  
 Credits: 3  
 Student Level: Junior or Senior



Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conversion; Heat and Energy  
 Transfer; Solar Systems Testing and  
 Evaluation

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COLORADO STATE UNIVERSITY (1350)  
 FORT COLLINS, Colorado 80523  
 (303) 491-5321

#### PROGRAMS AND CURRICULA

*Solar Energy Applications*  
 Degree: PhD, MS, Engineering  
 Students Taking or Completing Offering:  
 Educator, Researcher, Solar Engineer

#### SOLAR RELATED COURSES

*Design of Solar Energy Systems*  
 Course Number: CE/ME 675  
 Department: Engineering  
 Program or Curriculum: Solar Energy  
 Applications  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Solar System Components;  
 Solar Economics; Solar Collector  
 Evaluation; Design; Solar System  
 Design; Solar Systems Installation;  
 Solar Systems Maintenance; Solar  
 Systems Testing and Evaluation;  
 Domestic Hot Water; Elec'l Generation;  
 Central; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 30

#### *Principles of Solar Energy Applications*

Course Number: CE/ME 676  
 Department: Engineering  
 Program or Curriculum: Solar Energy  
 Applications  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Photovoltaics; Solar  
 System Components; Solar Collector  
 Evaluation; Design; Solar System  
 Design; Solar Systems Installation;  
 Solar Systems Maintenance; Solar  
 Systems Testing and Evaluation;  
 Domestic Hot Water; Elec'l Generation;  
 Central; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 30

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DENVER, UNIVERSITY OF (1371)  
 DENVER, Colorado 80210  
 (303) 753-1964

#### PROGRAMS AND CURRICULA

##### *Solar Energy*

Contact: Stonely, Paul J.  
 (303) 753-2194

Students Taking or Completing Offering:  
 Do-it-yourself Homeowner

#### SOLAR RELATED COURSES

*Solar Energy: Some Like It Hot*  
 Instructor: Vragel, Kurt  
 (303) 837-3385  
 Course Number: 00-99.11  
 Department: Continuing Education  
 Program or Curriculum: Solar Energy  
 Student Level: All levels  
 Duration: 9 Weeks, 2.0 hrs per week  
 Contact Hours: 18  
 Number of Times Taught: 7  
 Average Enrollment: 22

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FORT LEWIS COLLEGE (1353)  
 DURANGO, Colorado 81301  
 (303) 247-7661

#### SOLAR RELATED COURSES

*Elements of Solar Energy*  
 Instructor: Capp, Clifford  
 (303) 247-7249  
 Course Number: GSC00  
 Department: General Studies  
 Credits: 3  
 Student Level: All levels  
 Duration: 5 Weeks, 8.0 hrs per week  
 Contact Hours: 40  
 Classroom: 20  
 Laboratory: 10  
 Topics Covered Extensively: Energy  
 Conservation; Intro. to Solar Energy;  
 Passive Solar Technology;  
 Photovoltaics; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation; Design; Domestic Hot Water;  
 Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 20

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**MESA COLLEGE** (1358)  
GRAND JUNCTION, Colorado 81501  
(303) 248-1020

## PROGRAMS AND CURRICULA

*Solar Power*

Contact: Ramsey, Woodrow  
(303) 248-1565  
Students Taking or Completing Offering:  
Do-it-yourself Homeowner

## SOLAR RELATED COURSES

*Advanced Solar*

Instructor: Ramsey, Woodrow  
(303) 248-1565  
Department: Continuing  
Education/Outreach  
Program or Curriculum: Solar Power  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Home  
Construction; Solar Systems  
Installation; Solar Systems Maintenance  
Number of Times Taught: 3  
Average Enrollment: 25

*Beginning Solar Power*

Instructor: Ramsey, Woodrow  
(303) 248-1565  
Department: Continuing  
Education/Outreach  
Program or Curriculum: Solar Power  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Home  
Construction; Solar Systems  
Installation; Solar Systems Maintenance  
Number of Times Taught: 3  
Average Enrollment: 25

*Solar Practicum*

Instructor: Ramsey, Woodrow  
(303) 248-1565  
Department: Continuing  
Education/Outreach  
Program or Curriculum: Solar Power  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Home

Construction; Solar Systems  
Installation; Solar Systems Maintenance  
Number of Times Taught: 3  
Average Enrollment: 25

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**METROPOLITAN ST COLLEGE** (1360)  
DENVER, Colorado 80204  
(303) 629-2400

## SOLAR RELATED COURSES

*Alternate Energy Sources*

Instructor: Keitz, Robert  
(303) 629-3143  
Course Number: 190  
Department: Earth Sciences  
Program or Curriculum: Alternate Energy  
Sources  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy;  
Passive Solar Technology  
Number of Times Taught: 1  
Average Enrollment: 20

*Economics of Solar Heating*

Instructor: Smith, Howard S.  
(303) 629-3084  
Course Number: EET 390  
Department: Electronics Engineering  
Technology  
Credits: 2  
Student Level: Junior or Senior  
Duration: 4 Weeks, 7.5 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Solar  
Economics  
Number of Times Taught: 2  
Average Enrollment: 21

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**NORTHERN COLORADO U OF** (1349)  
GREELEY, Colorado 80639  
(303) 351-1890

## SOLAR RELATED COURSES

*Applied Solar Energy*

Instructor: Fadner, Willard  
(303) 351-2962  
Course Number: 467  
Department: Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy

Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Elec'l Generation, Central;  
Space Heating  
Number of Times Taught: 1  
Average Enrollment: 5

US AIR FORCE ACADEMY (1369)  
US AIR FORCE ACAD, COLO, Colorado 80840  
(303) 472-1369

## SOLAR RELATED COURSES

## Solar Energy Applications

Instructor: Eden, Anthony  
(303) 472-4036  
Course Number: CE495  
Department: Civil Engr., Engr.  
Mechanics and Materials  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 2.5 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating  
Number of Times Taught: 5  
Average Enrollment: 16

WESTERN ST COLLEGE COLO (1372)  
GUNNISON, Colorado 81230  
(303) 943-0120

## SOLAR RELATED COURSES

## Design for Solar Energy in Your Home Heating

Instructor: Kowal, Jerry  
(303) 943-2004  
Course Number: IA 233  
Department: Industrial Arts  
Credits: 2  
Student Level: Junior or Senior  
Duration: 2 Weeks, 15.0 hrs per week  
Contact Hours: 30  
Classroom: 20  
Laboratory: 10  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Space Heating  
Number of Times Taught: 7  
Average Enrollment: 30

## Passive Solar Arch. and Underground Const.

Instructor: Kowal, Jerry  
(303) 943-2004  
Course Number: IA 233  
Department: Industrial Arts  
Credits: 2  
Student Level: Junior or Senior  
Duration: 2 Weeks, 15.0 hrs per week  
Contact Hours: 30  
Classroom: 20  
Laboratory: 10  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Home Construction; Space Heating

## Community/Junior Colleges\*

COLO RTH COLLEGE WEST CAM (4506)  
GLENWOOD SPRINGS, Colorado 81601  
(303) 945-7481

## SOLAR RELATED COURSES

## Energy: Sources and Uses

Instructor: Trapani, I. L.  
Course Number: GSC 156  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Wind Power;  
Central Systems; Wind Power; Small  
Systems

## Sol. Ener. Bldg.-Design and Const.

Instructor: Shore, Ron  
Course Number: BLO 205  
Credits: 3  
Student Level: All levels  
Duration: 10 Weeks, 3.5 hrs per week  
Contact Hours: 35  
Topics Covered Extensively: Energy  
Conservation; Heat and Energy Transfer;  
Intro. to Solar Energy; Materials  
Research; Passive Solar Technology;  
Solar System Components; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Space Heating; Space Cooling

## Solar and Wind Energy Symposium

Instructor: Dutmers, Gary  
Course Number: GSC 27051  
Credits: 1  
Student Level: All levels

Duration: 10 Weeks, 1.0 hrs per week  
 Contact Hours: 10  
 Topics Covered Extensively: Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Wind Power, Central Systems; Wind Power, Small Systems

**Solar Architecture**

Instructor: Fanta, Greg  
 Course Number: BLO 204  
 Credits: 5  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

**Solar Energy**

Instructor: Shore, Pon  
 Department: Cent. Ed.  
 Student Level: High School Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 15  
 Number of Times Taught: 3  
 Average Enrollment: 25

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DENVER NORTH CAMPUS, CC OF (7933)  
 WESTMINSTER, Colorado 80030  
 (303) 287-3311

**SOLAR RELATED COURSES****Solar Energy**

Instructor: Kroll, Fred  
 (303) 466-8311  
 Course Number: SCI 120  
 Department: Science/Math  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy  
 Number of Times Taught: 3  
 Average Enrollment: 45

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DENVER RED ROCKS CAM, CC OF (9543)  
 GOLDEN, Colorado 80401  
 (303) 988-6160

**PROGRAMS AND CURRICULA****Solar Energy-Instl. and Main.**

Degree: AD, OTHER, Solar Energy-Inst. and Main.

Contact: Hilton, Craig/ Hilton, Robert  
 (303) 988-6161

Students Taking or Completing Offering:  
 Educator, Researcher,  
 Installer-Residential (Solar System),  
 Plumber, Sheet Metal Worker

**SOLAR RELATED COURSES****Advance Solar Controls**

Instructor: Klima, John  
 (303) 988-6161  
 Course Number: SOM 236  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 25

**Altern. Backup Systems for Solar Energy**

Instructor: Hilton, Craig  
 (303) 988-6161  
 Course Number: SOM 238  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Alternate Energy Sources

**Basic Sheet Metal for Solar Energy**

Instructor: DuPriest, Don  
 (303) 988-6161  
 Course Number: SOM 100  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45

Topics Covered Extensively: Sheet Metal  
Techniques; Solar System Components  
Number of Times Taught: 3  
Average Enrollment: 25

**Basic Solar Controls**

Instructor: Hitz, Frank  
(303) 988-6161  
Course Number: SOM235  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45

Topics Covered Extensively: Solar System  
Components; Solar Systems Testing and  
Evaluation

Number of Times Taught: 2  
Average Enrollment: 30

**Basic Solar Systems**

Instructor: Hilton, Craig  
(303) 988-6161  
Course Number: SOM200  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Inst. and  
Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Plumbing  
Techniques; Solar Home Construction;  
Solar Systems Installation; Domestic  
Hot Water; Swimming Pool Heating; Space  
Heating

Number of Times Taught: 6  
Average Enrollment: 20

**Blueprint Reading for Constr. Trades**

Instructor: Feister, Clarence  
(303) 988-6161  
Course Number: BTP 125  
Department: Industrial Div.  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 68  
Classroom: 45  
Laboratory: 23

Number of Times Taught: 20  
Average Enrollment: 20

**Bricklaying for Construction Trades**

Instructor: Gale, Bud  
(303) 988-6161  
Course Number: BRI120

Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45  
Number of Times Taught: 8  
Average Enrollment: 20

**Carpentry for Construction Trades**

Instructor: Hinz, Tim  
(303) 988-6161  
Course Number: CAR 120  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45

Topics Covered Extensively: Intfo. to  
Solar Energy  
Number of Times Taught: 8  
Average Enrollment: 20

**Domestic Hot Water**

Instructor: Hilton, Craig  
(303) 988-6161  
Course Number: SOM227  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45

Topics Covered Extensively: Solar  
Systems Installation; Domestic Hot  
Water

Number of Times Taught: 4  
Average Enrollment: 25

**Hot Water Heating-Instal. and Main.**

Instructor: Hilton, Robert  
(303) 988-6161  
Course Number: PLU 206  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal.  
and Main.

Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 15  
Laboratory: 45

Topics Covered Extensively: Plumbing  
Techniques

Number of Times Taught: 25  
Average Enrollment: 25

*Intro. to Photovoltaic and Wind Energy*

(303) 988-6161  
 Course Number: SOM 239  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Alternate Energy Sources; Photovoltaics; Solar Systems Installation; Elec'l Generation, Small Scale; Wind Power, Small Systems

*Orient. of Tools, Basic Plumb. and Draw.*

Instructor: Hilton, Robert  
 (303) 988-6161  
 Course Number: PLU 100  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Plumbing Techniques  
 Number of Times Taught: 25  
 Average Enrollment: 25

*Passive Solar Systems*

Instructor: Shippee, Paul  
 (303) 988-6161  
 Course Number: SOM 237  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar Systems Design; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 25

*Solar Eng. Tech I*

Instructor: Haugseth, Larry  
 (303) 988-6161  
 Course Number: SCH221  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instl. and Main.  
 Credits: 4  
 Student Level: All levels  
 Duration: 15 Weeks, 4.5 hrs per week

Contact Hours: 68  
 Classroom: 45  
 Laboratory: 23  
 Topics Covered Extensively: Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 25

*Solar Eng. Tech. II*

Instructor: Dahl, Mike  
 (303) 988-6161  
 Course Number: SOM222  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Inst. and Main.  
 Credits: 4  
 Student Level: All levels  
 Duration: 15 Weeks, 4.5 hrs per week  
 Contact Hours: 68  
 Classroom: 45  
 Laboratory: 23  
 Topics Covered Extensively: Solar Economics; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 25

*Solar Panel Arrays*

Instructor: Hilton, Craig  
 (303) 988-6161  
 Course Number: SCH226  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Solar System Components  
 Number of Times Taught: 6  
 Average Enrollment: 20

*Solar Panel Installations*

Instructor: Hilton, Craig  
 (303) 988-6161  
 Course Number: SOM 229  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Solar Home Construction; Solar Systems Installation

*Solar System Design and Layout*

Instructor: Hilton, Craig  
 (303) 988-6161



Course Number: SOM225  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 6  
 Average Enrollment: 25

**Solar System Maintenance**

Instructor: Hilton, Craig  
 (303) 988-6161  
 Course Number: SOM228  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Instal. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Solar System Components; Solar Systems Maintenance  
 Number of Times Taught: 2  
 Average Enrollment: 25

**Water Piping Methods**

Instructor: Hilton, Robert  
 (303) 988-6161  
 Course Number: PLU 107  
 Department: Industrial Occupations  
 Program or Curriculum: Solar Energy-Inst. and Main.  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Laboratory: 45  
 Topics Covered Extensively: Plumbing Techniques  
 Number of Times Taught: 25  
 Average Enrollment: 25

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OTERO JUNIOR COLLEGE (1362)  
 LA JUNTA, Colorado 81050  
 (303) 384-4443

**PROGRAMS AND CURRICULA**

Arch. Tech. - Solar Heating Option  
 Degree: AD, Applied Science  
 Contact: Nilsen, E. W.  
 (303) 384-4443  
 Students Taking or Completing Offerings:  
 Solar Technician Trade Specialist

**SOLAR RELATED COURSES****Arch. Tech. - Solar Heating Option**

Instructor: Nilsen, E. W.  
 (303) 384-4443  
 Department: Construction & Manufacturing  
 Program or Curriculum: Arch. Tech. - Solar Heating Option  
 Student Level: Freshman or Sophomore  
 Duration: 30 Weeks, 12.0 hrs per week  
 Contact Hours: 360  
 Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 0

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TRINIDAD STATE JR COLLEGE (1368)  
 TRINIDAD, Colorado 81082  
 (303) 846-5531

**SOLAR RELATED COURSES****Solar Home Construction**

Instructor: Brunelli, Roger F.  
 (303) 846-5531  
 Course Number: BT 2801  
 Department: Building Trades  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 15  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Installation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 10  
 Average Enrollment: 25

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**Other Educational Institutions**

COLLEGE OF SOLAR ENERGY  
Box 397  
Nederland, Colorado 80466

(90540)

SOLAR RELATED COURSES

\*Solar Related Courses

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COLORADO OFFICE OF ENERGY  
CONSERVATION  
1410 Grant St., B-104  
Denver, Colorado 80203

(90440)

SOLAR RELATED COURSES

\*Solar Energy Workshops

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DOMESTIC TECHNOLOGY INSTITUTE  
Box 2043  
Evergreen, Colorado 80439

(90550)

SOLAR RELATED COURSES

\*Solar Energy Workshops

Instructor: Lillywhite, Malcom

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THE ALTERNATE ENERGY INSTITUTE  
Box 3100  
Estes Park, Colorado 80517

(90310)

SOLAR RELATED COURSES

\*Solar Saturday

Topics Covered Extensively: Alternate  
Energy Sources

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## Colleges/Universities

**CENTRAL CONN ST COLLEGE** (1378)  
 NEW BRITAIN, Connecticut  
 (203) 827-7000

## SOLAR RELATED COURSES

*Introduction to Energy Processing*

Instructor: Duffy, Joseph  
 (203) 827-7378  
 Course Number: I.E. 114  
 Department: Technology  
 Credits: 2  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 6.0 hrs per week  
 Contact Hours: 96  
 Classroom: 26  
 Laboratory: 70  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Heat and Energy  
 Transfer; Wind Power, Central Systems;  
 Wind Power, Small Systems  
 Number of Times Taught: 12  
 Average Enrollment: 45

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**CONN MAIN CAMPUS, U OF** (29013)  
 STORRS, Connecticut  
 (203) 486-2000

## SOLAR RELATED COURSES

*Solar Energy*  
 Instructor: Pitkin, Edward T.  
 (203) 786-2332  
 Course Number: 320/295  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Storage; Heat and  
 Energy Transfer; Intro. to Solar  
 Energy; Solar System Components; Solar  
 Economics; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 30

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**GRADUATE CNT. OF RP 1 & CNT.**  
**ENVIRONMENT & MAN** (90260)  
 275 Windsor St.  
 Hartford, Connecticut 06120

## SOLAR RELATED COURSES

*\*Some Solar Energy Studies*

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**HARTFORD GRADUATE CENTER** (2804)  
 HARTFORD, Connecticut  
 (203) 549-3600

## PROGRAMS AND CURRICULA

*\*Environ. Sci. and Tech.*  
 Contact: Florek, Donald B.  
 Students Taking or Completing Offering:  
 Architect, Solar Engineer, Other

## SOLAR RELATED COURSES

*\*Adv. Solar Energy Systems Design*  
 Instructor: Florek, Donald B.  
 Department: Special Programs  
 Program or  
 Curriculum: \*Environ. Sci. and  
 Tech.

Topics Covered Extensively: Solar System  
 Components; Solar Collector  
 Evaluation/Design; Solar Systems Design

*\*Solar Energy*  
 Instructor: Florek, Donald B.  
 Department: Special Programs  
 Program or  
 Curriculum: \*Environ. Sci. and  
 Tech.

Topics Covered Extensively: Intro. to  
 Solar Energy

*\*Solar Energy for Bldgs.*  
 Instructor: Florek, Donald B.  
 Department: Special Programs  
 Program or  
 Curriculum: \*Environ. Sci. and  
 Tech.  
 Topics Covered Extensively: Passive  
 Solar Technology; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems Design

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**NEW HAVEN, UNIVERSITY OF** (1397)  
 WEST HAVEN, Connecticut  
 (203) 934-6321

## SOLAR RELATED COURSES

*\*Solar Heating and Cooling*  
 Department: Special Studies  
 Duration: 12 Weeks, 3.0 hrs per week  
 Contact Hours: 36  
 Topics Covered Extensively: Space  
 Heating; Space Cooling

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## SAINT JOSEPH COLLEGE

(1409)

WEST HARTFORD, Connecticut  
(203) 232-4571

## SOLAR RELATED COURSES

*Alt. Ener. Resources*Instructor: Murphy, S. MaryEllen  
(203) 232-4571

Course Number: SCI ED 607

Department: Chemistry

Credits: 3

Student Level: College Graduate

Duration: 15 Weeks, 4.0 hrs per week

Contact Hours: 60

Classroom: 30

Laboratory: 30

Number of Times Taught: 2

Average Enrollment: 25

*Energy Conversion*Instructor: Markham, S. Claire/  
Murphy, S. MaryEllen  
(203) 232-4571

Course Number: SCI ED 507

Department: Chemistry

Credits: 3

Student Level: College Graduate

Duration: 15 Weeks, 4.0 hrs per week

Contact Hours: 60

Classroom: 30

Laboratory: 30

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Solar Energy  
Policy Development

Number of Times Taught: 2

Average Enrollment: 25

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## WESLEYAN UNIVERSITY

(1424)

MIDDLETON, Connecticut  
(203) 347-9411

## SOLAR RELATED COURSES

*Field Work - Energy Planning*Instructor: Haake, Paul  
(203) 347-9411

Course Number: 417

Department: Science in Society

Credits: 3

Student Level: All levels

Duration: 13 Weeks, 8.0 hrs per week

Contact Hours: 104

Classroom: 98

Topics Covered Extensively: Energy  
Conversion; Energy Storage; Intro. to  
Solar Energy; Passive Solar Technology;  
Solar Systems Installation

Average Enrollment: 8

*Field Work - Environ. Planning*Instructor: Trousdale, William  
(203) 347-9411

Course Number: 413

Department: College of Science in  
Society

Credits: 3

Student Level: All levels

Duration: 13 Weeks, 3.0 hrs per week

Contact Hours: 39

Classroom: 33

Topics Covered Extensively: Alternate  
Energy Sources; Heat and Energy  
Transfer; Intro. to Solar Energy

Number of Times Taught: 3

Average Enrollment: 11

*Field Work in Energy Planning*Instructor: Brown, Howard J.  
(203) 347-9411

Course Number: 412

Department: Science in Society

Credits: 3

Student Level: Junior or Senior

Duration: 13 Weeks, 3.0 hrs per week

Contact Hours: 39

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Passive Solar  
Technology; Solar Economics

Number of Times Taught: 2

Average Enrollment: 10

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## WESTERN CONN ST COLLEGE

(1380)

DANBURY, Connecticut  
(203) 792-1400

## SOLAR RELATED COURSES

*Alternate Energy Systems*

Instructor: Tucker, Glenn T.

Student Level: All levels

Duration: 6 Weeks, 2.5 hrs per week

Contact Hours: 15

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Passive Solar  
Technology; Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Space Heating; Space Cooling

Number of Times Taught: 2

Average Enrollment: 24

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## YALE UNIVERSITY

(1426)

NEW HAVEN, Connecticut  
(203) 436-4771

## SOLAR RELATED COURSES

*Energy Conservation Seminar*Instructor: Watson, Donald  
(203) 433-6388

Course Number: C-24 (B)

Department: Architecture

Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 2.0 hrs per week  
Contact Hours: 26  
Classroom: 26  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Systems Design; Space Heating; Space  
Cooling.  
Number of Times Taught: 5  
Average Enrollment: 25

**HVAC and Energy Conservation**

Instructor: Barber, Everett M.,  
(203) 436-0550  
Course Number: A-21  
Department: Architecture  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy  
Conservation; Heat and Energy Transfer;  
Passive Solar Technology.  
Number of Times Taught: 6  
Average Enrollment: 38

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**Other Educational Institutions**

ENERGY ED. SERVICES OF CONNECTICUT (90280)  
PO Box 224  
Hartford, Connecticut 06103

**SOLAR RELATED COURSES****\*Solar Ener. for Homes & Bldgs**

Topics Covered Extensively: Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating

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THAMES VLY STATE TECH C (11413)  
NORWICH, Connecticut  
(203) 886-0177

**SOLAR RELATED COURSES**

*Solar Energy/Energy Conservation and Usage*  
Department: Evening Division  
Student Level: High School Graduate  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Number of Times Taught: 1  
Average Enrollment: 30

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## Colleges/Universities

DELAWARE, UNIVERSITY OF  
NEWARK, Delaware 19711  
(302) 738-2000

(1431)

## SOLAR RELATED COURSES

## Photovoltaic Energy Conversion

Instructor: Boer, Karl W.  
(302) 738-8048  
Department: Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively:  
Photovoltaics  
Number of Times Taught: 3  
Average Enrollment: 15

## Solar Energy Conversion

Instructor: Boer, Karl W.  
(302) 738-8048  
Course Number: 467/667  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Laboratory: 3  
Topics Covered Extensively: Energy  
Conversion; Materials Research;  
Photovoltaics  
Number of Times Taught: 3  
Average Enrollment: 20

## Solar Thermal Conversion

Instructor: Gureni, Selauk  
(302) 738-8160  
Course Number: 667  
Department: Mechanical and  
Aerospace Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 45

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NEWCASTLE COUNTY VOCATIONAL TECHNICAL  
SCHOOL

(90370)

1417 Newport Rd.  
Wilmington, Delaware 19804

## PROGRAMS AND CURRICULA

## \*Solar Heating of Buildings

## SOLAR RELATED COURSES

## \*Solar Heating of Buildings

Program or  
Curriculum: \*Solar Heating of  
Buildings

Contact Hours: 60  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation

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## Vocational/Technical Colleges

## Colleges/Universities

**CATHOLIC U OF AMERICA** (1437)  
WASHINGTON, District of Columbia 20064  
(202) 635-5000

## SOLAR RELATED COURSES

*Graduate Research in Solar Energy*  
Department: Chemical Eng'r

*Solar Energy and Thermal Radiation*  
Instructor: Whang, Y. C.  
(202) 635-5170

Course Number: ME527  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 35  
Laboratory: 6  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Systems Design  
Number of Times Taught: 5  
Average Enrollment: 15

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**GEORGE WASH UNIVERSITY** (1444)  
WASHINGTON, District of Columbia 20052  
(202) 676-6000

## PROGRAMS AND CURRICULA

\*Energy Resources & Environ.  
Degree: PhD, MS,  
(202) 676-6749

## SOLAR RELATED COURSES

\*Solar Heat. & Cool. -Res., Comm. Appls.  
Department: / Continuing Education  
Topics Covered Extensively: Space Heating; Space Cooling

\*Solar Heat. and Cool. Systems  
Course Number: ME259  
Department: Civil, Mech. & Environ. Eng'r

Program or Curriculum: \*Energy Resources & Environ.

Credits: 3  
Student Level: College Graduate  
Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

\*Wind Energy  
Course Number: ME254  
Department: Civil, Mech. & Environ. Eng'r

Program or Curriculum: \*Energy Resources & Environ  
Credits: 3  
Student Level: College Graduate  
Topics Covered Extensively: Energy Conversion; Solar Economics; Elec'l Generation, Central; Elec'l Generation, Small Scale; Wind Power, Central Systems; Wind Power, Small Systems

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**HOWARD UNIVERSITY** (1448)  
WASHINGTON, District of Columbia 20059  
(202) 636-6040

## SOLAR RELATED COURSES

*Energy and Power*  
Instructor: Walker, M. L.  
(202) 636-6565  
Course Number: 304-428  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Materials Research; Photovoltaics; Solar Economics  
Number of Times Taught: 11

*Process Engineering in Energy Systems*  
Instructor: Rao, M. Gopala  
(202) 636-6624  
Course Number: 305-413  
Department: Chemical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Energy Conservation; Energy Storage  
Average Enrollment: 25

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## Other Educational Institutions

**NATIONAL TRAINING FUND** (90360)  
1900 "L" Street NW, Suite 405,  
Washington, District of Columbia 20036

## PROGRAMS AND CURRICULA

\*Sheet Metal - Apprentice, Journeyman  
Contact: Harrington, Mr.  
(202) 833-9543

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## Colleges/Universities

## BARRY COLLEGE

MIAMI, Florida 33161  
(305) 758-3392

## SOLAR-RELATED COURSES

## Energy Economics

Instructor: Wryman, Mark  
(305) 754-7233  
Course Number: ECO 302  
Department: Continuing Education  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Home Construction; Solar Law/Legislation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation; Central; Elec'l Generation, Small Scale; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 12

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## FLORIDA INST TECHNOLOGY

MELBOURNE, Florida 32901  
(305) 723-3701

(1469)

## SOLAR RELATED COURSES

## Design of Solar Conversion Systems

Instructor: Alkasab, K. A.  
(305) 723-3701  
Course Number: ME 5037  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Solar System Components; Solar Systems Design; Elec'l Generation, Central; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 10

## Anln. of Solar Energy Conversion

Instructor: Alkasab, K. A.  
(305) 723-3701  
Course Number: ME 5035  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30

Classroom: 30

Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Elec'l Generation, Central; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 6

## Solar Energy Conversion Systems

Instructor: Alkasab, K. A.  
(305) 723-3701  
Course Number: ME 5036  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Elec'l Generation, Central; Space Cooling  
Number of Times Taught: 2  
Average Enrollment: 12

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## FLORIDA INTERNATIONAL U

MIAMI, Florida 33199  
(305) 552-2731

(9635)

## PROGRAMS AND CURRICULA

## Solar Energy Technology

Degree: BS, Master of Science  
Contact: Leonard, Rene J.  
Students Taking or Completing Offering: Solar Engineer

## SOLAR RELATED COURSES

## Advanced Solar Energy

Instructor: Leonard, Rene J.  
(305) 552-2807  
Department: Technology  
Program or Curriculum: Solar Energy Technology  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
Number of Times Taught: 10  
Average Enrollment: 25

**Energy Systems**

**Instructor:** Leonard, Rene J.  
(305) 552-2807  
**Department:** Technology  
**Program or Curriculum:** Solar Energy Technology  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
**Number of Times Taught:** 10  
**Average Enrollment:** 25

**Solar Energy in Bldg. Design**

**Instructor:** Leonard, Rene J.  
(305) 552-2807  
**Department:** Technology  
**Program or Curriculum:** Solar Energy Technology  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
**Number of Times Taught:** 10  
**Average Enrollment:** 25

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**FLORIDA TECHNOLOGICAL U**  
ORLANDO, Florida 32816  
(305) 275-2351

(3954)

**SOLAR RELATED COURSES****Solar Energy Systems**

**Instructor:** Evans, Ronald  
(305) 275-2416  
**Course Number:** ENL6416  
**Department:** Engin., Mech. Engin. and Aerosp. Sci.  
**Credits:** 4  
**Student Level:** Junior or Senior  
**Duration:** 12 Weeks, 4.0 hrs per week  
**Contact Hours:** 48  
**Classroom:** 48  
**Topics Covered Extensively:** Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
**Number of Times Taught:** 1

**Average Enrollment:** 27

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**FLORIDA, UNIVERSITY OF**  
GAINESVILLE, Florida 32611  
(904) 392-3261

(1535)

**PROGRAMS AND CURRICULA**

**\*Mechanical Eng'r**  
**Degree:** MS, Mechanical Engineering

**SOLAR RELATED COURSES**

**\*Courses in Wind, Methane, Greenhouse, Solar**  
**Department:** Mechanical Engineering  
**Program or Curriculum:** \*Mechanical Eng'r  
**Student Level:** All levels  
**Topics Covered Extensively:** Alternate Energy Sources; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating; Wind Power, Small Systems

**\*Graduate Research Courses**  
**Department:** Mechanical Eng'r  
**Program or Curriculum:** \*Mechanical Eng'r  
**Student Level:** College Graduate

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**MIAMI, UNIVERSITY OF**  
CORAL GABLES, Florida 33124  
(305) 284-2211

(1536)

**SOLAR RELATED COURSES****Fundamentals of Solar Energy Utilization**

**Instructor:** Potest, L./ Olsen, T.  
(305) 284-2571  
**Course Number:** MEN 510  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling  
**Number of Times Taught:** 2  
**Average Enrollment:** 12

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Florida

Solar Energy Research Institute

**NORTH FLORIDA, U OF**  
JACKSONVILLE, Florida 32216  
(904) 646-2666

**BREVARD CNTY COLLEGE**  
COCOA, Florida 32922  
(305) 632-1111

**SOLAR RELATED COURSES**

**Energy: Past, Present and Future**

Instructor: Bowman, Ray  
(904) 646-2518  
Course Number: BSC 9930AB  
Department: Arts and  
Sciences/Natural  
Sciences  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 Hrs per week  
Contact Hours: 50  
Topics Covered Extensively: Alternate  
Energy Sources  
Number of Times Taught: 4

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**WEST FLORIDA, U OF**  
PENSACOLA, Florida 32504  
(904) 476-9500

(3955)

**PROGRAMS AND CURRICULA**

**Master of Public Administration**  
Degree: Public Administration  
Contact: Skelton, Luther  
(904) 476-9500

**SOLAR RELATED COURSES**

**Energy Systems**

Instructor: Salmon, Jack D.  
(904) 476-9500  
Course Number: PHD 6934  
Department: Political Science  
Program or  
Curriculum: Master of Public  
Administration  
Credits: 5  
Student Level: College Graduate  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 50  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Solar Systems Design; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale  
Number of Times Taught: 1  
Average Enrollment: 9

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**Community/Junior Colleges**

**PROGRAMS AND CURRICULA**

**Solar Eng'r Technology**

Degree: AD, Appl. Sci. - Sol. Eng'r  
Tech  
Contact: Donnell, Nelson  
(305) 532-1111  
Students Taking or Completing Offerings:  
Solar Technician

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**EDISON COMMUNITY COLLEGE**  
FORT MYERS, Florida 33901  
(813) 481-2121

(1477)

**SOLAR RELATED COURSES**

**Alternate Energy Sources**

Instructor: Werst, Lee  
(813) 481-2121  
Department: Basic Science  
Credits: 4  
Student Level: High School Graduate  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 48  
Laboratory: 16  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy

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**GULF COAST CNTY COLLEGE**  
PANAMA CITY, Florida 32401  
(904) 769-1551

(1490)

**PROGRAMS AND CURRICULA**

**Solar Energy/Solar Systems**

Degree: AD, Science  
Contact: Jones, Robert G.  
(904) 769-1551

**SOLAR RELATED COURSES**

**Solar Energy**

Instructor: Stotz, Robert/ Jones,  
Robert  
(904) 769-1551  
Course Number: ETH-1101  
Department: Tech. Ed. - A/C Heat  
and Refrig.  
Program or  
Curriculum: Solar Energy/Solar  
Systems  
Credits: 3  
Student Level: All levels  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Topics Covered Extensively: Solar System



Components; Solar Home Construction;  
Solar Collector Evaluation/Design.  
Number of Times Taught: 1  
Average Enrollment: 29

**Solar Systems**

Instructor: Stotz, Robert/ Jones,  
Robert  
(904) 7769-1551  
Course Number: ETH 2102  
Department: Tech. Ed. - A/C Heat,  
and Refrig.  
Program or  
Curriculum: Solar Energy Solar  
Systems  
Credits: 3  
Student Level: All levels  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Topics Covered Extensively: Heat and  
Energy Transfer; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 24

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**MIAMI- DADE CNTY. COLLEGE**

(1506)

MIAMI, Florida 33176  
(305) 596-1211

**PROGRAMS AND CURRICULA****Air Conditioning Engineering  
Technology**

Degree: AD, Science  
Contact: Succop, William  
(305) 635-4564

Students Taking or Completing Offering:  
Architect, Installer-Residential (Solar  
System), Installer-Commercial (Solar  
System), Solar Technician

**SOLAR RELATED COURSES****Solar Energy Fundamentals**

Instructor: Cleland, George  
(305) 685-4206  
Course Number: ETH 2706  
Department: Air Conditioning  
Engineering Technology  
Program or  
Curriculum: Air Conditioning  
Engineering Technology  
Credits: 3  
Student Level: High School Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Systems Design;

Solar Systems Installation; Domestic  
Hot Water; Swimming Pool Heating

**Solar Energy Systems, Commercial**

Instructor: Cleland, George  
(305) 685-4206  
Course Number: ETH 2758 C  
Department: Air Conditioning  
Engineering Technology  
Program or  
Curriculum: Air Conditioning  
Engineering Technology  
Credits: 3  
Student Level: High School Graduate  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Systems Design;  
Solar Systems Installation; Domestic  
Hot Water; Swimming Pool Heating

**Solar Energy Systems, Residential**

Instructor: Cleland, George  
(305) 685-4206  
Course Number: ETH 2756C  
Department: Air Conditioning  
Engineering Technology  
Program or  
Curriculum: Air Conditioning  
Engineering Technology  
Credits: 3  
Student Level: High School Graduate  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Systems Design;  
Solar Systems Installation; Domestic  
Hot Water; Swimming Pool Heating

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**PENSACOLA JUNIOR COLLEGE**

(1513)

PENSACOLA, Florida 32504  
(904) 476-5410

**PROGRAMS AND CURRICULA****Solar Energy Technology**

Degree: AD, Energy Tech.  
Certificate of Completion  
Contact: Lowery, Stanley  
(904) 476-5410

## SOLAR RELATED COURSES

*Res. Design and Installation*

Instructor: Lowery, Stanley  
(904) 476-5410  
Department: Industrial Technology  
Program or Curriculum: Solar Energy Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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## SANTA FE CITY COLLEGE

(1519)

GAINESVILLE, Florida 32601  
(904) 377-5161

## SOLAR RELATED COURSES

*Principles of Solar Heat*

Instructor: Roy, Russell  
(904) 377-5161  
Course Number: ACT 1840  
Department: Industrial Education  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 30  
Laboratory: 15

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Number of Times Taught: 6  
Average Enrollment: 20

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VALENCIA CITY COLLEGE  
ORLANDO, Florida 32802  
(305) 299-5000

(6750)

## SOLAR RELATED COURSES

*Energy*

Instructor: McCord, William  
(305) 299-5000  
Course Number: PS-290  
Department: Science  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 30

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Domestic Hot Water

Number of Times Taught: 1  
Average Enrollment: 12

*Solar Energy for the Home-owner*

Instructor: McCord, William M.  
(305) 299-5000  
Department: Open Campus/Continuing Edu.  
Student Level: All levels  
Duration: 1 Weeks, 6.0 hrs per week  
Contact Hours: 6  
Classroom: 2  
Topics Covered Extensively: Intro. to Solar Energy; Domestic Hot Water

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## Vocational/Technical Colleges

## PINELLAS VO-TECH INSTITUTE

(90320)

6100 154th Ave. North  
Clearwater, Florida 33516

## SOLAR RELATED COURSES

\*Household Ener. Cons./Sol. Energy  
Topics Covered Extensively: Energy Conservation; Domestic Hot Water

\*Solar Energy Heating and Cooling  
Duration: 9 Weeks  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

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**SOUTH FLORIDA TECHNICAL INSTITUTE** (90020)  
201 W. Sunrise Blvd.  
Ft. Lauderdale, Florida 33311  
(305) 764-3432

**PROGRAMS AND CURRICULA****Energy Conversion Systems**

Contact: Linne, William L.  
(305) 764-3432

Students Taking or Completing Offering:  
Mechanical or Electrical Contractor,  
Installer-Residential (Solar System),  
Trade Specialty

**SOLAR RELATED COURSES****Air Cond., Refrig. and Maj. Appliances**

Instructor: Appleman, Louis  
(305) 764-3432

Department: Training

Program or  
Curriculum: Energy Conversion  
Systems

Student Level: High School Graduate

Duration: 5 Weeks, 30.0 hrs per week

Contact Hours: 150

Classroom: 100

Laboratory: 50

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy; Solar  
System Components; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar System Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Space Heating;  
Space Cooling

Number of Times Taught: 3

Average Enrollment: 10

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**Other Educational Institutions**

**FLORIDA SOLAR ENERGY CENTER** (90100)  
300 State Rd. 401  
Cape Canaveral, Florida 32920

**SOLAR RELATED COURSES**

\*Short Courses, Workshops, Seminars

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## Colleges/Universities

## BRENAN COLLEGE

GAINESVILLE, Georgia 30501  
(404) 532-4341

(1556)

## SOLAR RELATED COURSES

## Ecology

Instructor: Andrews, Charles L.  
(404) 532-4341  
Course Number: BY 303  
Department: Math/Sciences  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 6.0 hrs per week  
Contact Hours: 60  
Classroom: 40  
Laboratory: 20  
Average Enrollment: 20

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## GA INST OF TECHN MAIN CAM

ATLANTA, Georgia 30332  
(404) 894-2000

(1569)

## SOLAR RELATED COURSES

## Solar Energy Engineering

Instructor: Williams, J. Richard  
(404) 894-3351  
Course Number: ME 6360  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 30  
Laboratory: 3  
Topics Covered Extensively: Alternative  
Energy Sources; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar System  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Elec'l Generation, Central;  
Elec'l Generation, Small Scale; Process  
Heat, Agricultural; Process Heat,  
Industrial; Space Heating; Space  
Cooling  
Number of Times Taught: 4  
Average Enrollment: 30

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## GA INST TECHN- SOUTHERN TECH

(1570)

MARIETTA, Georgia 30060  
(404) 424-7200

## SOLAR RELATED COURSES

## Solar Heating and Cooling of Residences

Instructor: Newman, W.S.  
(404) 424-7255  
Course Number: 444  
Department: Architectural  
Engineering Technology  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 6.0 hrs per week  
Contact Hours: 60  
Classroom: 40  
Laboratory: 20  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar Home  
Construction; Solar System Design;  
Solar Systems Installation; Domestic  
Hot Water; Swimming Pool Space  
Heating; Space Cooling  
Number of Times Taught: 10  
Average Enrollment: 25

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## GEORGIA UNIVERSITY OF

(1596)

ATLANTA, Georgia 30602  
(404) 542-3030

## SOLAR RELATED COURSES

## Architecture Design Studio (Introductory Architecture)

Instructor: Linley, J.H. / Wahl,  
Michael  
(404) 542-1816  
Course Number: LAR 320  
Department: Environmental Design  
Credits: 5  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 40  
Laboratory: 10  
Number of Times Taught: 10  
Average Enrollment: 25

## Landscape Ecology

Instructor: Fisher, W.R.  
(404) 542-1816  
Course Number: LAR 323  
Department: Environmental Design  
Credits: 5  
Student Level: College Graduate  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 40  
Laboratory: 10  
Number of Times Taught: 10  
Average Enrollment: 20

## Nursery Management I

Instructor: Tinga, J.H.  
(404) 542-2471  
Course Number: HORT 363A



Department: Horticulture  
 Credits: 2  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 10  
 Laboratory: 10  
 Number of Times Taught: 10  
 Average Enrollment: 25

**Nursery Management II**

Instructor: Tinga, J.H.  
 (404) 542-2471  
 Course Number: HORT 367B  
 Department: Horticulture  
 Credits: 2  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 10  
 Laboratory: 10  
 Number of Times Taught: 10  
 Average Enrollment: 25

**Nursery Management III**

Instructor: Tinga, J.H.  
 (404) 542-2471  
 Course Number: HORT 363C  
 Department: Horticulture  
 Credits: 2  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 10  
 Laboratory: 10  
 Number of Times Taught: 10  
 Average Enrollment: 25

**Public Policy: Energy and Environment**

Instructor: Fegens, James L.  
 (404) 542-2057  
 Course Number: POL 451B  
 Department: Political Science  
 Credits: 5  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 40  
 Laboratory: 10

**Solar Energy Thermal Processes**

Instructor: Wilson, J.D./ McLendon, B.D.  
 (404) 542-1653  
 Course Number: 802  
 Department: Agricultural Engineering  
 Credits: 5  
 Student Level: College Graduate  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 21  
 Laboratory: 29  
 Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water  
 Number of Times Taught: 2

Average Enrollment: 25

**Utilization of Renewable Energy Resources**

Instructor: McLendon, B. Derrell  
 (404) 549-7527  
 Department: Agricultural Engineering  
 Credits: 5  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 34  
 Laboratory: 16  
 Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec. Generation, Small Scale

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**Community/Junior Colleges**

BRUNSWICK JUNIOR COLLEGE (1558)  
 BRUNSWICK, Georgia 31520  
 (912) 264-7211

**PROGRAMS AND CURRICULA****Vocational - Technical**

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DEKALB COMMUNITY COLLEGE (1562)  
 CLARKSTON, Georgia 30021  
 (404) 292-3992

**PROGRAMS AND CURRICULA****Solar Heating**

Degree: Solar Heating  
 Contact: Erickson, Glenn  
 (404) 292-1525  
 Students Taking on Completion Offering:  
 Installer-Residential (Solar System),  
 Solar Technician, Electrician, Plumber,  
 Sheet Metal Worker

**SOLAR RELATED COURSES****Solar Heating**

Instructor: Penland, William D.  
 (404) 292-1525  
 Department: Heating/Air Conditioning  
 Program or Curriculum: Solar Heating  
 Student Level: All Levels  
 Duration: 14 Weeks, 2.0 hrs per week  
 Contact Hours: 300  
 Classroom: 200  
 Laboratory: 100



**Colleges/Universities**

GUAM, UNIVERSITY OF (3935)  
AGANA, Guam 96910

**SOLAR RELATED COURSES**

**Seminar**

Instructor: Smith, Douglas  
(671) 234-2921  
Course Number: BI 691  
Department: Arts and Science,  
Biology  
Credits: 1  
Student Level: College Graduate  
Duration: 15 Weeks, 1.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Average Enrollment: 5

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## Colleges/Universities

**HAWAII AT MANOA, U OF** (1610)  
HONOLULU, Hawaii 96822  
(808) 948-7837

## SOLAR RELATED COURSES

*Environmental Education*

Instructor: Boyer, Wm. H.  
(808) 948-7817  
Course Number: ED EF 686  
Department: Education  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation  
Number of Times Taught: 3  
Average Enrollment: 20

*Seminar on Solar Energy*

Instructor: Garrett, Alfred J.  
(808) 948-7577  
Course Number: CE499AR477  
Department: Arts and Sciences,  
Meteorology  
Credits: 1  
Student Level: All levels  
Duration: 14 Weeks, 1.0 hrs per week  
Contact Hours: 14  
Classroom: 14  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Domestic Hot Water; Swimming Pool  
Heating; Elec'l Generation, Central;  
Space Heating; Space Cooling; Wind  
Power, Central Systems  
Number of Times Taught: 1  
Average Enrollment: 6

*Solar Energy and Architecture*

Instructor: Falicoff, W.  
(808) 948-6845  
Course Number: ARCH 477  
Department: Arts and Sciences,  
Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 17  
Laboratory: 25  
Topics Covered Extensively: Passive  
Solar Technology; Solar Economics;  
Solar Systems Design; Domestic Hot  
Water Space Heating; Space Cooling

*Solar Energy Measurements and Surveys*

Instructor: Garrett, Alfred J.  
(808) 948-7577  
Course Number: MET 752  
Department: Arts and Sciences,  
Meteorology  
Credits: 3  
Student Level: College Graduate  
Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42  
Classroom: 17  
Laboratory: 25  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar Systems Design;  
Solar Systems Maintenance

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**HAWAII HONOLULU CC, U OF** (1612)  
HONOLULU, Hawaii 96817  
(808) 845-9211

## SOLAR RELATED COURSES

*Energy: Its Sources and Utilization*

Course Number: ME 210  
Department: Mechanical Engineering  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Number of Times Taught: 3

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## Community/Junior Colleges

**HAWAII KAUAI CC, U OF** (1614)  
LIHUE, Hawaii 96766  
(808) 245-8311

## SOLAR RELATED COURSES

*Alternate Sources of Energy*

Instructor: Mock, Marshall  
(808) 245-8250  
Course Number: SCI 097  
Department: Math, Science & Tech.  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Elec'l  
Generation, Small Scale; Wind Power,  
Small Systems  
Number of Times Taught: 1  
Average Enrollment: 30

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## Colleges/Universities

**IDAHO STATE UNIVERSITY**  
POCATELLO, Idaho 83201  
(208) 236-0211

(1620)

## SOLAR RELATED COURSES

*Intro to Solar Energy*

Instructor: Corey, L.E.  
(208) 236-3975  
Course Number: ENG/PHY299  
Department: Engr/Physics  
Credits: 2  
Student Level: All levels  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Space Heating  
Number of Times Taught: 46  
Average Enrollment: 23

*Intro. to Solar Energy*

Instructor: Corey, L.E.  
(208) 236-3975  
Course Number: ENG/PHY 299  
Department: Eng./Physics  
Credits: 2  
Student Level: All levels  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Number of Times Taught: 46  
Average Enrollment: 23

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**IDAHO, UNIVERSITY OF**  
MOSCOW, Idaho 83843  
(208) 885-6111

(1626)

## PROGRAMS AND CURRICULA

*Power Technology*

Degree: BS, Science in Education  
Contact: Cassetto, James M.  
(208) 885-6492

Students Taking or Completing Offering:  
Educator

*Solar Energy*

Degree: PhD, MS, BS, Mech. or Elec.  
Engrg.  
Contact: Warner, R. E.  
(208) 885-6579

Students Taking or Completing Offering:  
Architect, Researcher, Solar Engineer

*Solar Energy Workshop*

Degree:  
Contact: Cassetto, James  
(208) 885-6492

Students Taking or Completing Offering:  
Educator, Contractor, Do-it-yourself,  
Homeowner

## SOLAR RELATED COURSES

*Alternate Energy*

Instructor: Cassetto, James  
(208) 885-6492  
Course Number: 350  
Department: Education, Industrial  
Ed.  
Program or Curriculum: Power Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 18 Weeks, 6.0 hrs per week  
Contact Hours: 108  
Classroom: 54  
Laboratory: 50  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation; Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
Average Enrollment: 50

*Alternate Energy Resources*

Instructor: Hager, Wayne  
(208) 885-6438  
Course Number: ES404  
Department: Engineering  
Program or Curriculum: Solar Energy Workshop  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 3  
Average Enrollment: 60

*Arch. - Environmental Control System*

Instructor: Bevans, Ronald B.  
(208) 885-6272  
Course Number: 463  
Department: Art and Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51

Classroom: 51  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Passive Solar Technology; Plumbing Techniques; Space Heating; Space Cooling  
 Number of Times Taught: 4  
 Average Enrollment: 65

**Arch. - Solar Energy Design**

Instructor: Eder, Anton  
 (208) 885-6272  
 Course Number: 404  
 Department: Art and Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 100

**Direct Energy Conversion**

Instructor: Hagen, Jack I.  
 (208) 885-6555  
 Course Number: EE 420  
 Department: Electrical Engineering  
 Program or Curriculum: Solar Energy Workshops  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Photovoltaics; Solar Collector Evaluation/Design; Elec'l Generation, Central; Elec'l Generation, Small Scale  
 Number of Times Taught: 1  
 Average Enrollment: 10

**Power Technology**

Instructor: Cassetto, James M.  
 (208) 885-6492  
 Course Number: 316  
 Department: Industrial Educ.  
 Program or Curriculum: Power Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 6.0 hrs per week  
 Contact Hours: 108  
 Classroom: 54  
 Laboratory: 54  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology;

Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 1  
 Average Enrollment: 15

**Solar Energy Systems**

Instructor: Warner, R. E.  
 (208) 885-6579  
 Course Number: MEE 435  
 Department: Mechanical Engineering  
 Program or Curriculum: Solar Energy  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 52  
 Laboratory: 2  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 18

**Workshop Solar Energy Tech.**

Instructor: Cassetto, James  
 (208) 885-6492  
 Course Number: 403  
 Department: Education Industrial Ed.  
 Program or Curriculum: Power Technology  
 Credits: 1  
 Student Level: All levels  
 Duration: 1 Weeks, 36.0 hrs per week  
 Contact Hours: 36  
 Classroom: 18  
 Laboratory: 18  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 35

Colleges/Universities

**BRADLEY UNIVERSITY** (1641)  
PEORIA, Illinois 61625  
(309) 676-7611

SOLAR RELATED COURSES

*Solar Energy Application*  
Instructor: Safdari, A. B.  
(309) 676-7611  
Course Number: ME 409  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 30  
Laboratory: 15  
Topics Covered Extensively: Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 15

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**CHICAGO STATE UNIVERSITY** (1694)  
CHICAGO, Illinois 60628  
(312) 995-2000

SOLAR RELATED COURSES

*Conservation of Energy Resources*  
Instructor: Cutler, Irving  
(312) 995-2186  
Course Number: 345  
Department: Geography  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage  
Number of Times Taught: 2  
Average Enrollment: 18

*Conservation of Natural Resources*  
Instructor: Cutler, Irving  
(312) 995-2186  
Course Number: 25  
Department: Geography  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage  
Number of Times Taught: 7  
Average Enrollment: 19

*Energy and Man*  
Instructor: Treptow, Richard  
(312) 995-2180  
Course Number: 101  
Department: Physical Sciences  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy  
Number of Times Taught: 9  
Average Enrollment: 103

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**CHICAGO, UNIVERSITY OF** (1774)  
CHICAGO, Illinois 60637  
(312) 753-1234

SOLAR RELATED COURSES

*Modern Optics*  
Instructor: Winston, Roland  
Department: Physics  
Student Level: College Graduate  
Topics Covered Extensively: Solar Collector Evaluation/Design

*Theory of Photovoltaic - Research*  
Instructor: Cohen, Morrel  
Student Level: College Graduate  
Topics Covered Extensively: Photovoltaics

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**CITY COLL OF CHICAGO- CITY WIDE C.** (29050)  
CHICAGO, Illinois 60601  
(312) 977-2500

SOLAR RELATED COURSES

*Natural Resources: Solar Energy*  
Instructor: Tryon, John  
Department: Public Service Institute

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**DEPAUL UNIVERSITY** (1671)  
CHICAGO, Illinois 60604  
(312) 321-8000

SOLAR RELATED COURSES

*Environmental Quality*  
Instructor: Schillinger, E. J.  
(312) 321-8175  
Course Number: 390  
Department: Physics  
Credits: 4



Student Level: College Graduate  
 Duration: 5 Weeks, 25.0 hrs per week  
 Contact Hours: 75  
 Classroom: 50  
 Laboratory: 25  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion; Elec'l Generation;  
 Central  
 Number of Times Taught: 1  
 Average Enrollment: 20

**Probs. (tech. Soc)-Prac. Sol. Ener-home**

Instructor: R.L. Novak  
 (312) 321-8192  
 Course Number: NSM303  
 Department: DePaul College  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 9 Weeks, 3.0 hrs per week  
 Contact Hours: 27  
 Classroom: 27  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Passive Solar Technology;  
 Solar System Components; Solar Home  
 Construction  
 Number of Times Taught: 2  
 Average Enrollment: 40

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**EASTERN ILL UNIVERSITY** (1674)  
 CHARLESTON, Illinois 61920  
 (217) 581-3020

**SOLAR RELATED COURSES****Alternate Energy Systems**

Instructor: Kleine, Ric  
 (217) 581-2721  
 Course Number: 3933  
 Department: School of Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 30  
 Laboratory: 15  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion  
 Number of Times Taught: 2  
 Average Enrollment: 30

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**GEORGE WILLIAMS COLLEGE** (1683)  
 DOWNERS GROVE, Illinois 60515  
 (312) 964-3100

**SOLAR RELATED COURSES**

**Energy Technology and the Future**  
 Instructor: Clark, Edward T.  
 Department: IEA

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**GOVERNORS ST UNIVERSITY**  
 PARK FOREST SOUTH, Illinois 60066  
 (312) 534-5000

(9145)

**SOLAR RELATED COURSES****Applications of Appropriate Tech.**

Instructor: Hagens, Beth  
 Course Number: 5295  
 Department: Environmental and  
 Applied Sciences  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Intro. to Solar Energy;  
 Marketing/Market Analysis; Materials  
 Research; Passive Solar Technology;  
 Solar Energy Policy Development; Solar  
 Economics; Solar Home Construction;  
 Solar Law/Legislation; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Solar Systems Maintenance; Domestic Hot  
 Water; Space Heating; Space Cooling;  
 Wind Power; Small Systems  
 Number of Times Taught: 2  
 Average Enrollment: 15

**Fundamentals of Appropriate Technology**

Instructor: Hagens, Beth  
 (312) 534-5000  
 Course Number: 6255  
 Department: Environmental & Applied  
 Sciences  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Intro. to Solar  
 Energy; Passive Solar Technology; Solar  
 Energy Policy Development; Solar  
 Economics; Solar Home Construction;  
 Solar Systems Design; Elec'l  
 Generation, Small Scale; Wind Power;  
 Central Systems; Wind Power; Small  
 Systems  
 Number of Times Taught: 2  
 Average Enrollment: 15

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**GREENVILLE COLLEGE** (1684)  
 GREENVILLE, Illinois 62246  
 (618) 664-1840

**SOLAR RELATED COURSES**

**Solar Energy**  
 Instructor: Siefken, Hugh  
 (618) 664-1840  
 Course Number: PHY 270  
 Department: Physics  
 Credits: 4



# Illinois

# Solar Energy Research Institute

Student Level: All levels  
Duration: 6 Weeks, 18.0 hrs per week  
Contact Hours: 108  
Classroom: 45  
Laboratory: 63

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ILL CHICAGO CIRCLE, U OF  
CHICAGO, Illinois 60680  
(312) 996-3000

## SOLAR RELATED COURSES

### Building Construction Systems

Instructor: Duchnik, Elliott  
(312) 996-3335  
Course Number: ARCH 313  
Department: Architecture  
Credits: 6  
Student Level: Junior or Senior  
Duration: 10 Weeks, 15.0 hrs per week  
Contact Hours: 150  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Storage;  
Heat and Energy Transfer  
Average Enrollment: 10

### Solar Energy

Instructor: Simon, H. A.  
(312) 996-8530  
Course Number: ENRE 391  
Department: Energy Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Heat and  
Energy Transfer; Solar Collector  
Evaluation/Design

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ILL URBANA CAMPUS, U OF  
URBANA, Illinois 61801  
(217) 333-1000

## SOLAR RELATED COURSES

### Advanced Topics to Heat and Mass Transfer

Instructor: Alkire, Richard  
(217) 333-0063  
Course Number: 488  
Department: Chemical Engineering  
Credits: 1  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Heat and  
Energy Transfer  
Number of Times Taught: 5  
Average Enrollment: 15

### Architectural Design Studio

Instructor: Bergason, Donald  
(217) 333-2848

Course Number: 371  
Department: Architecture  
Credits: 5  
Student Level: Junior or Senior  
Duration: 15 Weeks, 15.0 hrs per week  
Contact Hours: 225  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy

### Electrochemical Engineering

Instructor: Alkire, Richard  
(217) 333-0063  
Course Number: 308  
Department: Chemical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Materials Research  
Number of Times Taught: 4

### Energy Alternatives and Societal Values

Instructor: Bond, Charles E.  
(217) 367-0795  
Course Number: AAE 280  
Department: Aeronautical and  
Astronautical  
Engineering  
Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation  
Number of Times Taught: 7  
Average Enrollment: 20

### Energy Implications for Building Design

Instructor: Smith, Robert  
(217) 333-2848  
Course Number: 301ES  
Department: Architecture  
Credits: 4  
Student Level: College Graduate  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation  
Number of Times Taught: 1  
Average Enrollment: 10

### Geology of Energy

Instructor: Langenheim, R. L.  
(217) 333-1338  
Course Number: 105  
Department: Geology  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Number of Times Taught: 4  
Average Enrollment: 15

**Heat Transfer**

Instructor: Dunn, W. E.  
(217) 333-3832  
Course Number: ME 213  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Heat  
and Energy Transfer; Solar Collector  
Evaluation/Design  
Number of Times Taught: 25  
Average Enrollment: 120

**Oceanography**

Instructor: Anderson, T. F.  
Course Number: GEO 1370  
Department: Geology  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 15  
Number of Times Taught: 7  
Average Enrollment: 10

**Solar Energy Utilization**

Instructor: Clausen, A. M.  
(217) 333-0366  
Course Number: ME 307  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 3  
Average Enrollment: 30

**Solar Thermal Systems and Architectural Design**

Instructor: Bergeson, Donald  
(217) 333-2848  
Course Number: 301S  
Department: Architecture  
Credits: 4  
Student Level: College Graduate  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 10

**Sun, Wind, Earth, and Sea**

Instructor: Bend, Charles E.  
(217) 367-8995  
Course Number: AAE 281  
Department: Aeronautical and  
Astronautical  
Engineering  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Solar Energy  
Policy Development; Solar Economics;  
Domestic Hot Water; Space Heating; Wind  
Power, Central Systems  
Number of Times Taught: 2  
Average Enrollment: 24

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ILLINOIS INST TECHNOLOGY  
CHICAGO, Illinois 60616  
(312) 567-3189

(1691)

**PROGRAMS AND CURRICULA****Energy Conscious Design**

Degree: Architecture  
Contact: Sharpe, David C.  
(312) 567-3262  
Students Taking or Completing Offering:  
Architect, Educator, Researcher, Other

**SOLAR RELATED COURSES****Energy Conscious Design I**

Instructor: Swanson, Alfred  
(312) 567-3262  
Course Number: ARCH 387  
Department: Architecture, Planning  
and Design  
Program or  
Curriculum: Energy Conscious Design  
Credits: 2  
Student Level: Junior or Senior  
Duration: 17 Weeks, 2.0 hrs per week  
Contact Hours: 34  
Topics Covered Extensively: Energy  
Conservation; Passive Solar Technology;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Space Heating;  
Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 10

**Housing and Community Bldgs.**

Course Number: CRP 201  
Department: City and Regional  
Planning  
Program or  
Curriculum: Energy Conscious Design  
Credits: 6  
Student Level: All levels  
Duration: 17 Weeks, 16.0 hrs per week  
Contact Hours: 272

**Topics Covered Extensively:** Passive  
Solar Technology; Solar System  
Components; Solar Home Construction

#### **Solar & Geographical Energy**

**Instructor:** Lavan, Zalman  
**Course Number:** 449  
**Department:** Mechanical and Aero.  
Engr.  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
**Number of Times Taught:** 4  
**Average Enrollment:** 20

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**ILLINOIS STATE UNIVERSITY** (1692)  
NORMAL, Illinois 61761  
(309) 438-2111

#### **PROGRAMS AND CURRICULA**

**Technology for Industry-Energy**  
**Degree:** BS, Industrial Technology  
**Contact:** Israel, Everett N.  
(309) 438-3661

**Students Taking or Completing Offering:**  
Contractor, Other

#### **SOLAR RELATED COURSES**

**Solar Cooling and Heating**  
**Instructor:** Frances, Edward  
(309) 438-3661  
**Course Number:** 300 LEVEL  
**Department:** Industrial Technology  
**Program or Curriculum:** Technology for  
Industry-Energy  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 5.0 hrs per week  
**Contact Hours:** 75  
**Topics Covered Extensively:** Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Installation; Solar  
Systems Maintenance; Solar Systems  
Testing and Evaluation; Space Heating;  
Space Cooling  
**Number of Times Taught:** 2  
**Average Enrollment:** 14

**Solar Workshop**  
**Instructor:** Frances, Edward  
(309) 438-3661

**Course Number:** 300 LEVEL  
**Department:** Industrial Technology  
**Program or Curriculum:** Technology for  
Industry-Energy  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 5.0 hrs per week  
**Contact Hours:** 75  
**Topics Covered Extensively:** Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Space Heating; Space  
Cooling  
**Number of Times Taught:** 2  
**Average Enrollment:** 14

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**LEWIS UNIVERSITY** (1707)  
LOCKPORT, Illinois 60441  
(815) 838-0500

#### **SOLAR RELATED COURSES**

**\*Alt. Ener. Sour.-Prob., Phys. Environ.**  
**Instructor:** Walch, Philip  
**Department:** Physics  
**Topics Covered Extensively:** Alternate  
Energy Sources

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**NORTHERN ILL UNIVERSITY** (1737)  
DE KALB, Illinois 60115  
(815) 753-1000

#### **SOLAR RELATED COURSES**

**Energy Conversion**  
**Instructor:** Shaffer, John C.  
(815) 753-1773  
**Course Number:** PHYS 436  
**Department:** Physics  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy  
Conversion

**Solar Energy Collection and Conversion**  
**Instructor:** Shaffer, John C.  
(815) 753-1773  
**Course Number:** PHYS 432  
**Department:** Physics  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy

Conversion; Photovoltaics; Elec'l.  
Generation, Small Scale

**Solar Energy Seminar**

Instructor: Cowen, John C.  
(815) 753-1154  
Course Number: IT598U  
Department: Industry and Technology  
Credits: 3  
Student Level: College Graduate  
Duration: 4 Weeks, 20.0 hrs per week  
Contact Hours: 80  
Classroom: 40  
Laboratory: 10  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar Home Construction;  
Solar Systems Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 10

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**NORTHWESTERN UNIVERSITY**  
EVANSTON, Illinois 60201  
(312) 492-3741

**PROGRAMS AND CURRICULA****Solar Energy Principles and Applications**

Degree: NO, Departmental Engineering  
Degree  
Contact: Thodds, George

**SOLAR RELATED COURSES****Solar Energy Principles and Applications**

Instructor: Thodds, George  
(312) 492-3452  
Course Number: 710-C85  
Department: Chemical Engineering  
Program or Curriculum: Solar Energy Principles  
and Applications  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components  
Number of Times Taught: 2  
Average Enrollment: 18

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**PRINCIPIA COLLEGE**  
ELSAH, Illinois 62028  
(618) 374-2131

**SOLAR RELATED COURSES****Energy Efficient Living**

Instructor: Holzberlein, Thomas M.  
Course Number: 172  
Department: Physics  
Credits: 5

Student Level: All levels

Duration: 10 Weeks, 10.0 hrs per week

Contact Hours: 100

Classroom: 80

Laboratory: 20

Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Home Construction  
Number of Times Taught: 1  
Average Enrollment: 23

**Environmental Physics**

Instructor: Holzberlein, Thomas  
(618) 374-2131

Department: Physics

Credits: 5

Student Level: All levels

Duration: 10 Weeks, 5.0 hrs per week

Contact Hours: 52

Classroom: 52

Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy;  
Passive Solar Technology; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 20

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**SANGAMON STATE UNIVERSITY**  
SPRINGFIELD, Illinois 62708  
(217) 786-6634

(9333)

**SOLAR RELATED COURSES****Solar Energy-Options for Illinois**

Instructor: Casella, Al  
(217) 786-6630  
Course Number: PAC  
Department: Physical Sciences  
Credits: 2  
Student Level: Junior or Senior  
Duration: 4 Weeks, 8.0 hrs per week  
Contact Hours: 32  
Classroom: 32  
Topics Covered Extensively: Intro. to  
Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 100

**Solar Energy-Principles and App.**

Instructor: Casella, Al  
(217) 786-6630  
Course Number: PHS-422  
Department: Physical Sciences  
Credits: 5  
Student Level: Junior or Senior  
Duration: 16 Weeks, 8.0 hrs per week  
Contact Hours: 128  
Classroom: 64  
Laboratory: 64

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Domestic Hot Water; Space



Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 40

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SOUTHERN ILLINOIS U CARBONDALE (1758)  
CARBONDALE, Illinois 62901  
(618) 453-2121

SOLAR RELATED COURSES

**Solar Heating Design**  
Instructor: Kent, Albert  
(618) 536-2396  
Course Number: TEE407  
Department: Engin. and Tech.-Therm  
and Envir. Eng.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems Testing  
and Evaluation; Domestic Hot Water;  
Elec'l Generation, Central; Elec'l  
Generation, Small Scale; Process Heat,  
Industrial; Space Heating; Space  
Cooling  
Number of Times Taught: 1  
Average Enrollment: 20

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SOUTHERN ILLINOIS U EDWARDSVILLE (1759)  
EDWARDSVILLE, Illinois 62026  
(618) 692-2000

SOLAR RELATED COURSES

**Solar Energy**  
Instructor: Kokoropoulos, P.  
(618) 692-2500  
Department: Engineering/Technology  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 10  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Intro. to  
Solar Energy; Solar System Components;  
Solar Systems Design; Solar Systems  
Installation; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 6  
Average Enrollment: 40

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Community/Junior Colleges

CARL SANDBURG COLLEGE (1765)  
GALESBURG, Illinois 61401  
(309) 344-2518

PROGRAMS AND CURRICULA

\*Adult Continuing Edu.  
Contact: Rudd, Lanny

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CITY C CHICAGO LOOP C (1652)  
CHICAGO, Illinois 60601  
(312) 269-8000

SOLAR RELATED COURSES

\*Basic Consumer Ed. Courses - Sol. Products

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DUPAGE, COLLEGE OF (16656)  
GLEN ELLYN, Illinois 60137  
(312) 858-2800

SOLAR RELATED COURSES

**Introduction to Solar Energy**  
Department: Extension Division  
Student Level: All levels  
Duration: 3 Weeks, 20.0 hrs per week  
Contact Hours: 60  
Classroom: 39  
Laboratory: 21  
Topics Covered Extensively: Intro. to  
Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 25

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ILL ESTN CC OLNEY CEN C (1742)  
OLNEY, Illinois 62450  
(618) 395-4351

PROGRAMS AND CURRICULA

**Construction Energy Program**  
Degree: AD, Applied Science  
Contact: Harris, Steve  
(618) 395-4351  
Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Solar Technician

SOLAR RELATED COURSES

**Energy Conservation Theory**  
Instructor: Culver, Ray  
(618) 395-4351  
Course Number: SCI 121  
Department: Physics  
Program or Curriculum: Construction Energy  
Program  
Credits: 3  
Student Level: Freshman or Sophomore



Duration: 12 Weeks, 3.0 hrs.

Contact Hours: 36

Classroom: 36

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology;  
Photovoltaics; Solar System Components;  
Solar Systems Design

**Energy Systems in Construction**Instructor: Parish, William  
(608) 395-4351

Course Number: EQ 172

Department: Construction Trades

Program on:

Curriculum: Construction Energy  
Program

Credits: 3

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 3.0 hrs per week

Contact Hours: 36

Classroom: 36

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Photovoltaics; Solar System  
Components; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Wind Power, Central Systems;  
Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 30

**Gas and Arc Welding**Instructor: Jausel, Russ  
(618) 395-4351

Course Number: AUM 282

Department: Welding

Program on:

Curriculum: Construction Energy  
Program

Credits: 5

Student Level: All levels

Duration: 12 Weeks, 8.0 hrs per week

Contact Hours: 96

Classroom: 24

Laboratory: 72

Number of Times Taught: 3

Average Enrollment: 12

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**ILL. ESTH. LINCOLN TRAIL C.**ROBINSON, Illinois 62454  
(618) 544-8657

(9786)

**SOLAR RELATED COURSES****Air Conditioning and Refrigeration-Load Calculation**Instructor: Harvey, Robert  
(618) 544-8657

Course Number: ACR 272

Department: Air Conditioning and  
Refrigeration

Credits: 3

Student Level: Freshman or Sophomore

Duration: 6 Weeks, 12.0 hrs per week

Contact Hours: 72

Classroom: 48

Laboratory: 24

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Plumbing Techniques; Sheet Metal  
Techniques; Solar System Components;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems Testing  
and Evaluation; Domestic Hot Water;  
Swimming Pool Heating; Process Heat,  
Agricultural; Process Heat, Industrial;  
Space Heating  
Number of Times Taught: 3  
Average Enrollment: 20

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**ILLINOIS CENTRAL COLLEGE**

(6753)

EAST PEORIA, Illinois 61635  
(309) 694-5011**SOLAR RELATED COURSES****Energy Alternatives**

Instructor: Brooks-Miller, D.L.

Course Number: ARC 183-3

Department: Agriculture-Indus.  
Occupation

Credits: 3

Student Level: College Graduate

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Wind Power, Central  
Systems; Wind Power, Small Systems

Number of Times Taught: 6

Average Enrollment: 20

**Residential Solar Energy Planning**

Instructor: Brooks-Miller, D.L.  
 Course Number: ARC001-3  
 Department: Agriculture-Indus.  
 Occupation  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer;  
 Intro. to Solar Energy; Passive Solar  
 Technology; Solar Home Construction;  
 Domestic Hot Water; Space Heating;  
 Space Cooling; Wind Power, Central  
 Systems; Wind Power, Small Systems

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**JOHN A LOSAN COLLEGE**

(8076)

CARTERVILLE, Illinois 62918  
 (618) 935-3741

**SOLAR RELATED COURSES****Introduction to Solar Energy**

Instructor: Erlich, Brent  
 (618) 684-4110  
 Course Number: DRV 035A  
 Department: Adult and Continuing  
 Education  
 Student Level: All levels  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 14  
 Laboratory: 6  
 Topics Covered Extensively: Alternate  
 Energy Sources; Intro. to Solar Energy  
 Number of Times Taught: 2  
 Average Enrollment: 18

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**KANKAKEE CITY COLLEGE**

(7690)

KANKAKEE, Illinois 60901  
 (815) 933-9511

**SOLAR RELATED COURSES****Solar Energy Survey**

Instructor: Mathers, Kris  
 (815) 933-0345  
 Course Number: REFR 1413  
 Department: Technical Division  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Solar Economics; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Solar Systems Testing and  
 Evaluation  
 Number of Times Taught: 1  
 Average Enrollment: 8

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**MCHENRY COUNTY COLLEGE**

(7691)

CRYSTAL LAKE, Illinois 60014  
 (815) 455-3700

**SOLAR RELATED COURSES****Solar Energy Fundamentals**

Instructor: Konitzer, John D.  
 (815) 455-3700  
 Course Number: CCO 009A  
 Department: Natural Science  
 Student Level: All levels  
 Duration: 4 Weeks, 4.0 hrs per week  
 Contact Hours: 16  
 Classroom: 12  
 Laboratory: 4  
 Topics Covered Extensively: Energy  
 Storage; Intro. to Solar Energy;  
 Passive Solar Technology; Solar  
 Economics; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Elec'l  
 Generation, Central; Elec'l Generation;  
 Small Scale; Space Heating; Wind Power,  
 Central Systems; Wind Power, Small  
 Systems  
 Number of Times Taught: 1  
 Average Enrollment: 6

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**MORRIS VLY CITY COLLEGE**

(7692)

PALOS HILLS, Illinois 60465  
 (312) 974-4300

**SOLAR RELATED COURSES****\*Alternate Energy Conference**

Instructor: Zoller, Arlene  
 Department: Special Projects  
 Topics Covered Extensively: Alternate

## Energy Sources

## \*Introduction to Solar Energy

Instructor: Zoller, Arlene  
 Department: Special Projects  
 Topics Covered Extensively: Intro. to Solar Energy

## \*Lecture Series on Solar Homes

Instructor: Zoller, Arlene  
 Department: Special Projects  
 Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

## \*Solar Power and Collector Equipment

Instructor: Behles, William J.  
 Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design

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## TRITON COLLEGE

RIVER GROVE, Illinois 60171  
 (312) 456-0300

(1773)

## SOLAR RELATED COURSES

## Solar Energy (Introduction To)

Instructor: Fricano, Peter  
 Course Number: TEC E19  
 Department: School of Continuing Ed.  
 Student Level: All levels  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Number of Times Taught: 3  
 Average Enrollment: 20

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## WM RAINY HARPER COLLEGE

PALATINE, Illinois 60067  
 (312) 397-3000

(3961)

## SOLAR RELATED COURSES

## Solar Energy Architecture

Instructor: Yohanan, Joseph  
 (312) 397-3000  
 Course Number: AEC211  
 Department: Architectural Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology  
 Number of Times Taught: 2  
 Average Enrollment: 20

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## Vocational/Technical Colleges

## THE QUINCY TECHNICAL SCHOOL

Quincy, Illinois 62301

(90030)

## SOLAR RELATED COURSES

## Air Cond., Refrig., Heating Service

Instructor: Devlin, David B./  
 W.G. Dubuque  
 (217) 224-0600  
 Department: Refrigeration  
 Student Level: High School Graduate  
 Duration: 1 Weeks, 30.0 hrs per week  
 Contact Hours: 30  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Solar System Components; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 20

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## Other Educational Institutions

## SOLAR STORE INC

Box 841, Dept. bs  
 Peoria, Illinois 61652

(90330)

## PROGRAMS AND CURRICULA

## \*Sol. Ener. Ed. for Installers

Contact: Shanks, Diane/ Adsit, M.

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## Colleges/Universities

**BALL STATE UNIVERSITY** (1786)  
MUNCIE, Indiana 47306  
(317) 289-1241

## SOLAR RELATED COURSES

*Solar Architecture for Architects*

Instructor: Koester, Robert J.  
(317) 285-4955  
Course Number: 498  
Department: Arch.  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating.

Number of Times Taught: 4  
Average Enrollment: 15

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**EARLHAM COLLEGE** (1793)  
RICHMOND, Indiana 47374  
(317) 962-6561

## SOLAR RELATED COURSES

*Energy, Technology, And Human Affairs*

Instructor: Flick, Cathy  
(317) 962-6561  
Course Number: P10  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Number of Times Taught: 15  
Average Enrollment: 35

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**HUNTINGTON COLLEGE** (1803)  
HUNTINGTON, Indiana 46750  
(219) 356-6000

## SOLAR RELATED COURSES

*Energy Alternatives: Solar Energy*

Instructor: Smith, Gerald D.  
(219) 356-6000  
Course Number: 207  
Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 4 Weeks, 15.0 hrs per week  
Contact Hours: 60  
Classroom: 40

Laboratory: 20

Topics Covered Extensively: Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Home Construction; Solar Collector Evaluation/Design; Domestic Hot Water; Elec'l Generation, Central; Space Heating

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**IND NORTHERN GRAD SCH-MGMT** (1806)  
MARION, Indiana 46952  
(317) 674-2900

## PROGRAMS AND CURRICULA

*Masters of Professional Management*

Degree: MS, OT, Professional Management  
Contact: Morgan, James/ Costa, Dr. Da  
(317) 674-2900

## SOLAR RELATED COURSES

*Energy Auditing for Mgrs. and Engrs.*

Instructor: Klima, Karel/ Thumann, Al  
(404) 874-8188

Course Number: 561  
Department: Ft. Wayne Ext.-Prof. Mgmt. Hosp. Adm.

Program or Curriculum: Masters of Professional Management

Credits: 4  
Student Level: College Graduate  
Duration: 13 Weeks, 2.0 hrs per week  
Contact Hours: 26  
Classroom: 26  
Topics Covered Extensively: Energy Conservation; Solar Systems Testing and Evaluation; Process Heat, Industrial; Space Heating; Space Cooling  
Average Enrollment: 50

*Energy Conservation for Managers*

Instructor: Klima, Karel/ Thumann, Al  
(404) 874-8188

Course Number: 560  
Department: Ft. Wayne Ext.-Prof. Mgmt./Hosp. Adm.

Program or Curriculum: Masters of Professional Management

Credits: 4  
Student Level: College Graduate  
Duration: 13 Weeks, 2.0 hrs per week  
Contact Hours: 26  
Classroom: 26  
Topics Covered Extensively: Energy Conservation; Process Heat, Industrial; Space Heating; Space Cooling  
Average Enrollment: 50

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IND- PURDUE U FORT WAYNE  
FORT WAYNE, Indiana 46805  
(219) 482-5121

(1872)

## SOLAR RELATED COURSES

*Solar Energy, Ready When You Are*  
Instructor: Johnson, Kenneth R.  
(219) 482-5737  
Department: Engineering/Continuing  
Education  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Classroom: 20  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Systems Design; Space Heating

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IND- PURDUE U INDIANAPOLIS  
INDIANAPOLIS, Indiana 46202  
(317) 635-8661

(1813)

## SOLAR RELATED COURSES

*Solar Energy For Heating and Cooling*  
Instructor: Kaplan, Jerome I.  
(317) 923-1321  
Course Number: ME497  
Department: Engineering and  
Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

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NOTRE DAME, UNIVERSITY OF  
NOTRE DAME, Indiana 46556  
(219) 283-1122

(1840)

## SOLAR RELATED COURSES

*Man and Energy - Alt. to Atom and Coal*  
Instructor: Berry, William B.  
(219) 283-1122  
Course Number: EE-213  
Department: Electrical Engineering  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy  
Number of Times Taught: 6  
Average Enrollment: 12

*Solid-State Energy Conversion*

Instructor: Berry, William B.  
(219) 283-1122  
Course Number: EE-466  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Intro. to  
Solar Energy; Photovoltaics  
Number of Times Taught: 8  
Average Enrollment: 12

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PURDUE U MAIN CAMPUS  
LAFAYETTE, Indiana 47907  
(317) 749-8111

(1825)

## SOLAR RELATED COURSES

*Aerodynamics of Wind Machines*  
Instructor: Sullivan, Jo  
(317) 749-2400  
Course Number: 590A  
Department: Aero & Astro  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 30  
Laboratory: 15  
Topics Covered Extensively: Energy  
Conversion; Wind Power, Central  
Systems; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 10

*Properties of Solids*

Instructor: Satp, H.  
Course Number: MSE 550  
Department: Materials Engr  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Materials  
Research  
Number of Times Taught: 8  
Average Enrollment: 10

*Sel. of Materials and Mech. Functions*

Instructor: Hruska, S. J.  
(317) 493-1875  
Course Number: MSE 345  
Department: Materials Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Materials  
Research  
Number of Times Taught: 10  
Average Enrollment: 140

*Solar Energy Utilization*

Instructor: Viskanta, R.  
Course Number: ME495V  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 5 Weeks, 3.0 hrs per week



Contact Hours: 15  
Topics Covered Extensively: Appropriate

Average Enrollment: 40

Technology; Biomass Conversion; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

Number of Times Taught: 2  
Average Enrollment: 20

#### Utilization of Renewable Resources

Instructor: Ladisch, Michael  
(317) 749-2971

Course Number: AGR. 500  
Department: Agricultural Engineering Dept.

Credits: 1  
Student Level: Junior or Senior  
Duration: 46 Weeks, 1.0 hrs per week  
Contact Hours: 16  
Classroom: 16

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion

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ROSE-HULMAN INST OF TECHN (1830)  
TERRE HAUTE, Indiana 47803  
(812) 877-1511

#### SOLAR-RELATED COURSES

##### Independent study

Instructor: Caskey, Jerry A.  
(812) 877-1511  
Course Number: CHE490  
Department: Chem. Engineering  
Mech. Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 20

Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 11

##### Solar Energy

Instructor: Dekker, Don L.  
(812) 877-1511  
Course Number: ME308  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 1

#### Vocational/Technical Colleges

IND VOC TECH C- EVANSVILLE (9925)  
EVANSVILLE, Indiana 47710  
(812) 426-2865

#### SOLAR RELATED COURSES

##### Solar Heating and Cooling

Instructor: Foster, Jerry  
(812) 426-2865  
Course Number: 7157  
Department: Heating, Air Conditioning and Refrigeration  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 11  
Laboratory: 22  
Number of Times Taught: 1  
Average Enrollment: 15

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IND VOC TECH- SELLERSBURG (10109)  
SELLERSBURG, Indiana 47172  
(812) 246-3301

#### SOLAR RELATED COURSES

##### Solar Heating & Cooling

Instructor: Owsly, Dean  
Course Number: 7157  
Department: Heating, Air, Conditioning, Refrigeration  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 22  
Laboratory: 22

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating

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INDIANA VOCATIONAL TECHNICAL COLLEGE-

NU

(90040)

Gary, Indiana 46409  
(219) 981-1111

SOLAR RELATED COURSES

*Solar Energy Seminar*

Credits: 1

Student Level: All levels

Duration: 1 Week, 1.5 hrs per week

Contact Hours: 11

Topics Covered Extensively: Solar Energy

Policy Development; Solar System

Components; Solar Law/Legislation;

Solar Collector Evaluation/Design;

Solar Systems Design

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Other Educational Institutions

INDIANAPOLIS CENTER FOR ADVANCED  
RESEARCH

(90300)

1219 West Michigan St.  
Indianapolis, Indiana 46202

SOLAR RELATED COURSES

\*Solar Energy Studies

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## Colleges/Universities

**DIVINE WORD COLLEGE** (1858)  
 EPWORTH, Iowa 52045  
 (319) 876-3354

## SOLAR RELATED COURSES

*Energy (lecture and laboratory)*

Instructor: Tomuta, Liviu  
 (319) 876-3354  
 Course Number: PHYS. 321/2  
 Department: Science and Mathematics  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 5.0 hrs per week  
 Contact Hours: 75  
 Classroom: 45  
 Laboratory: 30

Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Heat and Energy  
 Transfer; Intro. to Solar Energy;  
 Photovoltaics; Solar Systems Design;  
 Space Heating

*Everybody's Physics*

Instructor: Tomuta, Liviu  
 (319) 876-3354  
 Course Number: PHYS 158  
 Department: Science and Mathematics  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 23  
 Laboratory: 22

Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion; Intro. to Solar  
 Energy

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**IOWA STATE U SCI & TECHN** (1869)  
 AMES, Iowa 50010  
 (515) 294-4111

## PROGRAMS AND CURRICULA

*Arch.-Energy Conscious Design*

Degree: M.Arch.  
 Contact: Greenfield, Sanford R.  
 (515) 294-4718

Students Taking or Completing Offering:  
 Architect, Educator, Researcher,  
 Do-it-yourself Homeowner

## SOLAR RELATED COURSES

*Adv. Thermal Environmental Engineering*

Instructor: Woods, James E.  
 (515) 294-2342  
 Course Number: ME647X  
 Department: Mech. Engr.  
 Program or  
 Curriculum: Arch.-Energy Conscious  
 Design

Credits: 4

Student Level: College Graduate  
 Duration: 11 Weeks, 8.0 hrs per week  
 Contact Hours: 88  
 Classroom: 22  
 Laboratory: 66  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion; Energy Storage; Heat  
 and Energy Transfer; Passive Solar  
 Technology; Domestic Hot Water; Space  
 Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 5

*Design with Solar Energy*

Instructor: Kainlauri, Eino O.  
 (515) 294-4717  
 Department: Architecture -  
 Extension  
 Program or  
 Curriculum: Arch.-Energy Conscious  
 Design  
 Student Level: College Graduate  
 Duration: 11 Weeks, 28.0 hrs per week  
 Contact Hours: 28  
 Classroom: 12  
 Laboratory: 16

Topics Covered Extensively: Appropriate  
 Technology; Energy Storage; Heat and  
 Energy Transfer; Passive Solar  
 Technology; Solar System Components;  
 Solar Home Construction; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating; Space Cooling

*Human Thermal Environments*

Instructor: Woods, James E.  
 (515) 294-2342  
 Course Number: 529  
 Department: Design/Architecture  
 Program or  
 Curriculum: Arch.-Energy Conscious  
 Design

Credits: 3  
 Student Level: College Graduate  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Heat and  
 Energy Transfer; Space Heating; Space  
 Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 8

*Solar Energy Thermal Systems*

Instructor: Woods, James E.  
 (515) 294-2342  
 Course Number: ME528  
 Department: Mechanical Engineering  
 Program or  
 Curriculum: Arch.-Energy Conscious  
 Design  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conservation; Energy

Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating.

Number of Times Taught: 3

Average Enrollment: 24

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IOWA, UNIVERSITY OF (1892)  
IOWA CITY, Iowa 52242  
(319) 353-2121

#### SOLAR RELATED COURSES

*Chemistry and the Physics of the Environment*  
Instructor: Frank, L. A./ Frank, C.

Course Number: 11:25/29:25  
Department: Liberal Arts/Chemistry-Physics  
Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60

Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Intro. to Solar Energy  
Number of Times Taught: 6  
Average Enrollment: 350

*Methods of Direct Energy Conversion*

Instructor: Lonngren, Karl  
(319) 353-3696  
Course Number: 545:176  
Department: Electrical and Computer Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Photovoltaics  
Number of Times Taught: 7  
Average Enrollment: 10

*Solar Energy Applications*

Instructor: Spencer, D. L.  
(319) 353-4099  
Course Number: 528:148  
Department: Energy Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.5 hrs per week  
Contact Hours: 54  
Classroom: 44  
Laboratory: 10  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design  
Number of Times Taught: 2

Average Enrollment: 18

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LOHAS COLLEGE (1873)  
DUBUQUE, Iowa 52001  
(319) 588-7100

#### SOLAR RELATED COURSES

*Physics: Energy and the Environment*  
Instructor: Hutchinson, D. J.  
(319) 583-7154

Course Number: 9  
Department: Physics and Engineering Science  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Solar Energy Policy Development  
Number of Times Taught: 4  
Average Enrollment: 75

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LUTHER COLLEGE (1874)  
DECORAH, Iowa 52101  
(319) 387-2000

#### SOLAR RELATED COURSES

*Solar Energy*

Instructor: Nelson, David T.  
(319) 387-1226  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 3 Weeks, 20.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Intro. to Solar Energy; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 30

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NORTHERN IOWA, U OF (1890)  
CEDAR FALLS, Iowa 50613  
(319) 273-2311

#### SOLAR RELATED COURSES

*Alternate Energy Sources*

Instructor: Macomber, Hilliard K.  
(319) 273-2290  
Department: College of Natural Sciences  
Credits: 1  
Student Level: College Graduate  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15

Classroom: 12

Topics Covered Extensively: Alternate  
Energy Sources**Physics & the Environment**Instructor: Jensen, Verner  
(319) 273-2588

Course Number: 08:010

Department: Physics Dept. of  
Natural Science

Credits: 3

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Number of Times Taught: 10

Average Enrollment: 80

**Power Systems**Instructor: Norton, Will  
(319) 273-2561

Course Number: 33:032

Department: Natural Sciences  
Industrial Technology

Credits: 2

Student Level: Freshman or Sophomore

Duration: 18 Weeks, 2.0 hrs per week

Contact Hours: 36

Classroom: 30

Number of Times Taught: 9

Average Enrollment: 94

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**Community/Junior Colleges****DES MOINES AREA CC**

ANKENY, Iowa 50021

(515) 964-6200

(8735)

**PROGRAMS AND CURRICULA****Solar Energy I and II**

Degree: Adult Ed.

Contact: Rowe, Gordon N.  
(515) 964-6266**SOLAR RELATED COURSES****Man and Energy**Instructor: Trumpy, Frank  
(515) 964-6292

Course Number: PHYS 110

Department: Math/Science

Credits: 3

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 3.0 hrs per week

Contact Hours: 36

Classroom: 36

Topics Covered Extensively: Alternate  
Energy Sources

Number of Times Taught: 9

Average Enrollment: 19

**Solar Energy I - General Overview**Instructor: Sidles, Paul  
(515) 296-6844

Course Number: BLDG: 519

Department: Adult Ed

Program or

Curriculum: Solar Energy I and II

Student Level: All levels

Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30

Classroom: 27

Topics Covered Extensively: Energy

Conservation; Intro. to Solar Energy;

Solar System Components; Solar

Economics; Solar Collector

Evaluation/Design; Solar Systems

Design; Domestic Hot Water

Number of Times Taught: 7

Average Enrollment: 15

**Solar Energy II - Air Systems**Instructor: Hummell, Myron  
(515) 239-6900

Course Number: BLDG. 522

Department: Adult Ed.

Program or

Curriculum: Solar Energy I and II

Student Level: All levels

Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30

Classroom: 27

Topics Covered Extensively: Appropriate

Technology; Energy Conservation; Energy

Storage; Heat and Energy Transfer;

Sheet Metal Techniques; Solar System

Components; Solar Collector

Evaluation/Design; Solar Systems

Design; Solar Systems Installation;

Solar Systems Maintenance; Space

Heating

Number of Times Taught: 2

Average Enrollment: 10

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**KIRKWOOD CHTY COLLEGE**

CEDAR RAPIDS, Iowa 52406

(319) 398-5411

(4076)

**SOLAR RELATED COURSES****\*Agr. Supplemental Ener. Systems**

Department: Agr. Cont. Education

Topics Covered Extensively: Biomass

Conversion; Wind Power, Small Systems

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**MUSCATINE CMTY COLLEGE**  
MUSCATINE, Iowa 52761  
(319) 263-8250

(1882)

## PROGRAMS AND CURRICULA

*Solar Carpentry*

Degree: BS, Industrial Education  
Contact: Melander, Harry  
(319) 263-8250

Students Taking or Completing Offering:  
Installer-Residential (Solar System)

*Use of Sol. Ener.-Homeowners, Builders*

Degree: Certificate of Completion  
Contact: Ohlendorf, Vernon  
(319) 263-8250

Students Taking or Completing Offering:  
Do-it-yourself Homeowner

## SOLAR RELATED COURSES

*Solar Carpentry*

Instructor: Melander, Harry  
(319) 263-8250

Department: Trades

Program or Curriculum: Solar Carpentry

Credits: 61

Student Level: High School Graduate

Duration: 46 Weeks, 28.0 hrs per week

Topics Covered Extensively: Energy Conservation; Energy Conversion; Passive Solar Technology; Domestic Hot Water

Number of Times Taught: 1

Average Enrollment: 10

*Use of Sol. Ener.-Homeowners, Builders*

Instructor: Ohlendorf, Vernon  
(319) 263-8250

Department: Community Services-Continued Education

Program or Curriculum: Use of Sol. Ener.-Homeowners, Builders

Student Level: All levels

Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30

Classroom: 20

Laboratory: 10

Number of Times Taught: 2

Average Enrollment: 15

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**SCOTT COMMUNITY COLLEGE**  
BETTENDORF, Iowa 52722  
(319) 359-7531

(4074)

## PROGRAMS AND CURRICULA

*\*Solar Energetics Technology*

Degree: AD, Solar Energetics Technology  
(319) 359-7531

Students Taking or Completing Offering:

Architect, Researcher,  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Solar Technician

## SOLAR RELATED COURSES

\*Courses: Instal., Repair - Heat, Ref., A/C  
Program or Curriculum:

\*Solar Energetics Technology

Topics Covered Extensively: Energy Storage; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling

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## Vocational/Technical Colleges

**WESTERN IOWA TECH**  
SICUX CITY, Iowa 51102  
(712) 276-0380

(7316)

## PROGRAMS AND CURRICULA

*Solar Systems Technology*

Degree: AD, Applied Sci. in Sol. Sys. Tech.

Contact: Chadwick, Richard  
(712) 276-0380

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Solar Technician, Other

## SOLAR RELATED COURSES

*Blueprint Reading*

Instructor: Forsling, M. G.  
(712) 276-0380

Course Number: 274-3005

Department: Trades & Industry

Program or Curriculum:

Solar Systems Technology

Credits: 4

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 5.0 hrs per week

Contact Hours: 60

Classroom: 36

Laboratory: 24

Topics Covered Extensively: Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design;

**Solar Systems Design; Elec'l  
Generation, Small Scale; Space Heating**  
Average Enrollment: 11

**Building Design for Solar Systems**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3010  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 6.0 hrs per week  
Contact Hours: 72  
Classroom: 24  
Laboratory: 48  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Passive  
Solar Technology; Solar Home  
Construction  
Average Enrollment: 11

**Integrated Solar Sci. II**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3006  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 72  
Classroom: 48  
Laboratory: 24  
Topics Covered Extensively: Energy  
Conversion; Elec'l Generation, Small  
Scale; Space Heating; Space Cooling  
Average Enrollment: 11

**Introduction to Solar Systems**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3000  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Average Enrollment: 11

**Solar Feasibility Cost Analysis**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3012  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60

Classroom: 60  
Topics Covered Extensively: Solar  
Economics  
Average Enrollment: 11

**Solar Systems Application I**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3002  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 9  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 13.0 hrs per week  
Contact Hours: 156  
Classroom: 60  
Laboratory: 96  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Plumbing Techniques; Solar Collector  
Evaluation/Design  
Average Enrollment: 11

**Solar Systems Applications II**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3007  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 8  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 11.0 hrs per week  
Contact Hours: 132  
Classroom: 60  
Laboratory: 72  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Plumbing Techniques; Solar  
System Components; Solar Collector  
Evaluation/Design; Solar Systems  
Testing and Evaluation; Space Heating  
Average Enrollment: 11

**Solar Systems Maintenance**

Instructor: Forsling, M. G.  
(712) 276-0380  
Course Number: 274-3013  
Department: Trades & Industry  
Program or Curriculum: Solar Systems  
Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 6.0 hrs per week  
Contact Hours: 72  
Classroom: 24  
Laboratory: 48  
Topics Covered Extensively: Energy  
Storage; Solar System Components; Solar  
Systems Maintenance; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water; Space Heating  
Average Enrollment: 11

**Systems Design Engineering**

Instructor: Forsling, M. G.  
(712) 276-0380

Course Number: 274-3011

Department: Trades & Industry

Program or

Curriculum: Solar Systems  
Technology

Credits: 6

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 8.0 hrs. per week

Contact Hours: 96

Classroom: 48

Laboratory: 48

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Solar Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation

Average Enrollment: 11

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## Colleges/Universities

**BENEDICTINE COLLEGE** (10256)  
 ATCHISON, Kansas 66002  
 (913) 367-6110

## SOLAR RELATED COURSES

*Passive Solar Energy*

Instructor: Niles, Red  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 7 Weeks, 2.0 hrs per week  
 Contact Hours: 14  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Passive Solar Technology

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**EMPORIA STATE UNIVERSITY** (1927)  
 EMPORIA, Kansas 66801  
 (316) 343-1200

## SOLAR RELATED COURSES

*The Energy Crisis*

Instructor: Backhus, DeWayne  
 (316) 343-1200  
 Course Number: PS 520  
 Department: Liberal Arts and  
 Sci.-Phys. Sci.  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Intro. to Solar Energy; Passive Solar  
 Technology  
 Number of Times Taught: 13  
 Average Enrollment: 15

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**KANSAS MAIN CAMPUS, U OF** (1948)  
 LAWRENCE, Kansas 66045  
 (913) 864-2700

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Nerecek, I.V.  
 (913) 864-3181  
 Course Number: ME614  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 54  
 Topics Covered Extensively: Energy  
 Conservation; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 20

*Solar Energy System Design*

Instructor: Dean, Thomas Scott  
 (913) 864-4281  
 Course Number: 731  
 Department: Architectural  
 Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 16 Weeks, 5.0 hrs per week  
 Contact Hours: 80  
 Classroom: 32  
 Laboratory: 48  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conservation; Energy  
 Storage; Intro. to Solar Energy;  
 Plumbing Techniques; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Systems Design;  
 Solar Systems Installation; Solar  
 Systems Maintenance; Solar Systems  
 Testing and Evaluation; Domestic Hot  
 Water; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 25

*Thermal Properties of Building Materials*

Instructor: Dean, Thomas Scott  
 (913) 864-4281  
 Course Number: 728  
 Department: Architectural  
 Engineering  
 Credits: 2  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Passive Solar Technology; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 14

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**KANSAS ST U AGR & APP SCI** (1928)  
 MANHATTAN, Kansas 66506  
 (913) 532-6011

## PROGRAMS AND CURRICULA

*Architecture*

Degree: Architecture  
 Contact: Foerster, Bernd  
 (913) 532-5950  
 Students Taking or Completing Offering:  
 Architect

## SOLAR RELATED COURSES

*Architectural Design Studio 3*

Instructor: Coates, Gary  
 (913) 532-5953  
 Course Number: 105-603  
 Department: Architecture  
 Program or  
 Curriculum: Architecture  
 Credits: 5  
 Student Level: Junior or Senior

Duration: 16 Weeks, 15.0 hrs per week  
 Contact Hours: 240  
 Laboratory: 240

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power; Small Systems  
 Average Enrollment: 20

**Architectural Design Studio, 4**

Instructor: Coates, Gary  
 (913) 532-5953

Course Number: 105-604  
 Department: Architecture

Program or Curriculum: Architecture

Credits: 5

Student Level: Junior or Senior

Duration: 16 Weeks, 15.0 hrs per week

Contact Hours: 240

Laboratory: 240

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power; Small Systems  
 Average Enrollment: 20

**Architectural Design Studio, 5**

Instructor: Coates, Gary  
 (913) 532-5953

Course Number: 105-801  
 Department: Architecture

Program or Curriculum: Architecture

Credits: 5

Student Level: Junior or Senior

Duration: 16 Weeks, 15.0 hrs per week

Contact Hours: 240

Laboratory: 240

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power; Small Systems  
 Average Enrollment: 20

**Basic Construction Technology**

Instructor: Chapman  
 (913) 532-5953

Course Number: 104-290  
 Department: Pre-Design Professions

Program or Curriculum: Architecture

Credits: 3

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 8

Number of Times Taught: 5

Average Enrollment: 250

**Ener. Use and Control in Agri. Systems**

Instructor: Clark, Stanley J.  
 (913) 532-5580

Course Number: 505

Department: Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 5.0 hrs per week

Contact Hours: 75

Classroom: 30

Laboratory: 45

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion

Number of Times Taught: 6

Average Enrollment: 15

**Environmental Design of Farm Buildings**

Instructor: Spillman, Charles K.  
 (913) 532-5580

Course Number: 505 510

Department: Agricultural Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 5.0 hrs per week

Contact Hours: 80

Classroom: 32

Laboratory: 48

Number of Times Taught: 6

Average Enrollment: 17

**Environmental Design Studio**

Instructor: Miller  
 (913) 532-5953

Course Number: 104-261

Department: Pre-Design Professions

Program or Curriculum: Architecture

Credits: 4

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 4.0 hrs per week

Contact Hours: 64

Laboratory: 64

Number of Times Taught: 5

Average Enrollment: 300

**Environmental Systems in Architecture**

Instructor: Jahnke, William R.  
 (913) 532-5950

Course Number: 105-515

Department: Architecture

Program or Curriculum: Architecture

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Topics Covered Extensively: Energy Conservation; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components;



Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 6  
 Average Enrollment: 100

**Environmental Systems in Architecture I**

Instructor: Coates, Gary  
 (913) 532-5953  
 Course Number: 105-413  
 Department: Architecture  
 Program or Curriculum: Architecture  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 8.0 hrs per week  
 Contact Hours: 64  
 Classroom: 48  
 Laboratory: 16

Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Space Heating  
 Average Enrollment: 140

**Intro. to Alternate Energy Sources**

Instructor: Eckhoff, H. Dean  
 (913) 532-5624  
 Course Number: 500-420  
 Department: General Engineering  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power, Small Systems  
 Number of Times Taught: 4  
 Average Enrollment: 10

**Solar Energy Conversion Processes**

Instructor: Eckhoff, H. Dean  
 (913) 532-5624  
 Course Number: 500-380  
 Department: General Engineering  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power, Small Systems  
 Number of Times Taught: 2

Average Enrollment: 7

**Solar Energy Thermal Processes**

Instructor: Ball, H. D.  
 (913) 532-5610  
 Course Number: 560-680  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 25

**Theory of Design**

Instructor: Coates, Gary  
 (913) 532-5953  
 Course Number: 105-715  
 Department: Architecture  
 Program or Curriculum: Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Law/Legislation; Space Heating; Space Cooling

**Topics in Building Construction Systems**

Instructor: Coates, Gary  
 (913) 532-5953  
 Course Number: 105-735  
 Department: Architecture  
 Program or Curriculum: Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Laboratory: 48

Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Energy Policy Development; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 7

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**PITTSBURG STATE UNIVERSITY**  
 PITTSBURG, Kansas 66762  
 (316) 231-7000

**SOLAR RELATED COURSES****Energy Efficiency Design**

Instructor: Hightower, Daniel L.  
 (316) 231-7000  
 Course Number: 735  
 Department: Technology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 18 Weeks, 3.0 hrs per week  
 Contact Hours: 54  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 1  
 Average Enrollment: 20

**Solar Energy**

Instructor: Backes, Robert  
 (316) 231-7000  
 Course Number: 740  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 8 Weeks, 6.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

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**WICHITA STATE UNIVERSITY** (1950)  
 1945 Fairmount  
 WICHITA, Kansas 67208  
 (316) 689-3456

**SOLAR RELATED COURSES****Energy-Alternatives and Impact**

Instructor: Berg, J.R.  
 (316) 689-3141  
 Course Number: 690  
 Department: Geology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Number of Times Taught: 4  
 Average Enrollment: 13

**Energy, Resources & Environment**

Instructor: Gries, J.C./Berg, J.R.  
 (316) 689-3141  
 Course Number: 3005  
 Department: Geology  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Number of Times Taught: 20  
 Average Enrollment: 200

**Inst. Math. & Proc.**

Instructor: Webb, Edgar  
 (316) 689-3350  
 Course Number: I.E.751  
 Department: Industrial Education  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 4 Weeks, 15.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components  
 Number of Times Taught: 2  
 Average Enrollment: 9

**Meteorology**

Instructor: Carrier, Cecil  
 (316) 689-3141  
 Course Number: GEOG 235  
 Department: Geology/Geography  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 32  
 Laboratory: 32  
 Average Enrollment: 36

**ME Special Topics**

Instructor: Graham, A.R.  
 (316) 689-3402  
 Course Number: ME751  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design  
 Number of Times Taught: 11  
 Average Enrollment: 20

**Petroleum Geology**

Instructor: Berg, J.R.  
 (316) 689-3141  
 Course Number: 692  
 Department: Geology  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48

**Kansas**

Classroom: 48  
 Number of Times Taught: 54  
 Average Enrollment: 13

**Urban Alternate Energy Sources**

Instructor: Graham, A.R.  
 (316) 689-3402

Course Number: 751  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources

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**Community/Junior Colleges**

**BARTON CO CHTY JR COLLEGE** (4608)  
 GREAT BEND, Kansas 67530  
 (316) 792-2701

**PROGRAMS AND CURRICULA**

**Solar Energy Technology**

Degree: AD, Applied Science  
 Contact: Greer, Neil  
 (316) 792-2701

Students Taking or Completing Offering:  
 Trade Specialty

**SOLAR RELATED COURSES**

**Solar Energy and Applied Science I**

Instructor: Greer, Neil  
 (316) 792-2701  
 Course Number: 6900  
 Department: Applied Sciences  
 Program or Curriculum: Solar Energy Technology  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 17 Weeks, 6.0 hrs per week  
 Contact Hours: 102  
 Classroom: 51  
 Laboratory: 51

Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 7

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**Solar Energy Research Institute**

**GARDEN CITY COMMUNITY JC** (1919)  
 GARDEN CITY, Kansas 67846  
 (316) 276-7611

**SOLAR RELATED COURSES**

**Solar Energy**

Instructor: Hundley, Gerald  
 (316) 276-7611  
 Course Number: 274-083  
 Department: Industrial Educ.  
 Credits: 3  
 Student Level: All levels  
 Duration: 17 Weeks, 3.0 hrs per week  
 Contact Hours: 51  
 Classroom: 51  
 Number of Times Taught: 5  
 Average Enrollment: 8

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**Vocational/Technical Colleges**

**KANSAS TECHNICAL INST** (4611)  
 SALINA, Kansas 67401  
 (913) 825-0275

**PROGRAMS AND CURRICULA**

**Mech. Engineering Tech. -Solar Option**

Degree: AD, Science  
 Contact: Ashburn, M.H.  
 (913) 825-0275

Students Taking or Completing Offering:  
 Solar Technician

**SOLAR RELATED COURSES**

**Solar System Design Technology I**

Instructor: Ashburn, M.  
 (913) 825-0275  
 Course Number: MT2832  
 Department: Mechanical Technology  
 Program or Curriculum: Mech. Engineering Tech. -Solar Option  
 Credits: 2  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 16  
 Laboratory: 48

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

*Solar System Design Technology II*

Instructor: Ashburn, M.

(913) 825-0275

Course Number: MT2844

Department: Mechanical Technology

Program on

Curriculum: Mech. Engineering

Tech.-Solar Option

Credits: 4

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 8.0 hrs per week

Contact Hours: 128

Classroom: 42

Laboratory: 86

Topics Covered Extensively: Energy

Storage; Heat and Energy Transfer;

Intro. to Solar Energy; Passive Solar

Technology; Plumbing Techniques; Solar

System Components; Solar Economics;

Solar Collector Evaluation/Design;

Solar Systems Design; Solar Systems

Installation; Solar Systems Testing and

Evaluation; Domestic Hot Water; Space

Heating

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## Other Educational Institutions

UNIVERSITY FOR MAN

(90150)

1221 Thurston Avenue

Manhattan, Kansas 66502

## PROGRAMS AND CURRICULA

*Appropriate Technology*

Contact: Cpates, Gary

(913) 532-5866

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## Colleges/Universities

**KENTUCKY, UNIVERSITY OF** (1989)  
LEXINGTON, Kentucky 40506  
(606) 258-9000

## SOLAR RELATED COURSES

*Advanced Topics in Solar Energy*

Instructor: Birkebak, R.C.  
(606) 257-2712  
Course Number: ME 782/380  
Department: Mechanical Engineering  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 1  
Average Enrollment: 10

*Functional Des. of Agri. Structures*

Instructor: Parker, B.F.  
(606) 258-5671  
Course Number: AEN 427  
Department: Agricultural Engineering  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 1  
Average Enrollment: 4

*Solar Housing Workshop*

Instructor: Levine, Richard  
(606) 258-4367  
Course Number: ARE 263/4  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling  
Number of Times Taught: 8  
Average Enrollment: 15

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**NORTHERN KY UNIVERSITY** (9276)  
HIGHLAND HEIGHTS, Kentucky 41076  
(606) 292-5100

## SOLAR RELATED COURSES

*Solar Energy I*

Instructor: McPhetson, Mike  
(606) 292-5409  
Course Number: PHY299  
Department: Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 5.0 hrs per week  
Contact Hours: 75  
Classroom: 15  
Laboratory: 60  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

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**WESTERN KY UNIVERSITY** (2002)  
BOWLING GREEN, Kentucky 42101  
(502) 745-0111

## SOLAR RELATED COURSES

*Solar Collector Construction*

Instructor: H.M. Healey  
(502) 745-0111  
Course Number: ET475  
Department: Engineering Technology  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 10  
Laboratory: 6  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation  
Number of Times Taught: 1  
Average Enrollment: 15

*Solar Fundamentals For Buildings*

Instructor: Healey, H.M.  
(502) 745-2461  
Course Number: ET347  
Department: Engineering Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy



Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating

Number of Times Taught: 0

**WKU Solar Heating Systems**

Instructor: Healey, H.M.

(502) 745-2461

Department: Engineering Technology

Student Level: All levels

Duration: 1 Weeks, 32.0 hrs per week

Contact Hours: 32

Classroom: 28

Laboratory: 4

Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Space Heating

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## Colleges/Universities

LA STATE U AND ACM C (2010)  
BATON ROUGE, Louisiana 70803  
(504) 388-1471

## SOLAR RELATED COURSES

*Mechanical Engineering Problems*

Instructor: Arnas/Maples  
(504) 388-5792  
Course Number: 7933  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Energy  
Conversion; Energy Storage;  
Photovoltaics; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Design  
Number of Times Taught: 2  
Average Enrollment: 10

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LOUISIANA TECH UNIVERSITY (2008)  
PUSTON, Louisiana 71272  
(318) 257-0211

## SOLAR RELATED COURSES

*Solar Energy Design*

Instructor: Barron, Randall F.  
(318) 257-4141  
Course Number: 442  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 3.8 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Intro. to  
Solar Energy; Plumbing Techniques;  
Solar System Components; Solar  
Economics; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Swimming Pool Heating; Elec'l  
Generation, Central; Process Heat,  
Agricultural; Space Heating; Space  
Cooling  
Number of Times Taught: 0

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NEW ORLEANS, UNIVERSITY OF (2015)  
NEW ORLEANS, Louisiana 70122  
(504) 283-0500

## SOLAR RELATED COURSES

*Design of Solar Heat, and Cool. Systems*

Instructor: Russo, Edwin P.  
(504) 283-0652  
Course Number: 4770  
Department: Engineering/Mechanical

Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Appropriate  
Technology; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Swimming Pool Heating; Process  
Heat, Agricultural; Process Heat,  
Industrial; Space Heating; Space  
Cooling  
Number of Times Taught: 1  
Average Enrollment: 35

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TULANE U OF LOUISIANA (2029)  
NEW ORLEANS, Louisiana 70118  
(504) 865-4011

## SOLAR RELATED COURSES

*Solar Thermal Processes*

Instructor: Hamilton, DeWitt C.  
(504) 865-6176  
Course Number: ME4619  
Department: Mech. Enging.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 5  
Average Enrollment: 15

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## Community/Junior Colleges

DELGADO COLLEGE (14606)  
NEW ORLEANS, Louisiana 70118  
(504) 486-7393

## SOLAR RELATED COURSES

*Applied Solar Energy*

Instructor: [illegible]  
Course Number: [illegible]

Department: Eng. and Indus.  
Tech./Mech. Engrg.  
Tech.  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Energy  
Storage; Heat and Energy Transfer;  
Passive Solar Technology; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Swimming Pool Heating; Process  
Heat, Industrial; Space Heating; Space  
Cooling; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 30

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## Colleges/Universities

ATLANTIC COLLEGE OF THE (11385)  
BAR HARBOR, Maine  
(207) 288-5015

## PROGRAMS AND CURRICULA

## Environmental Design

Degree: BA, Human Ecology  
Contact: Calvano, Rose  
(207) 284-5015

Students Taking or Completing Offerings:  
Architect, Educator, Researcher,  
Do-it-yourself Homeowner

## SOLAR RELATED COURSES

## Alternate Energy

Instructor: Lyman, Harris  
Department: Environmental Design  
Program or Curriculum: Environmental Design  
Topics Covered Extensively: Alternate  
Energy Sources; Heat and Energy  
Transfer; Passive Solar Technology;  
Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating; Space Cooling; Wind  
Power, Small Systems

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COLBY COLLEGE (2039)  
WATERVILLE, Maine  
(207) 873-1131

## SOLAR RELATED COURSES

## Energy Economics

Instructor: Tietenberg, Tom  
(207) 547-3339  
Course Number: 311  
Department: Economics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Alternate  
Energy Sources  
Number of Times Taught: 2  
Average Enrollment: 18

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MAINE AT FORT KENT, U OF (2041)  
FORT KENT, Maine  
(207) 834-3162

## SOLAR RELATED COURSES

## Energy Conservation, Alternate Sources

Instructor: Thiele, Eborhard  
(207) 834-3162  
Course Number: ET322  
Department: Environmental Studies

Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy  
Number of Times Taught: 1  
Average Enrollment: 10

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MAINE AT ORONO, U OF (2053)  
ORONO, Maine  
(207) 581-7011

## SOLAR RELATED COURSES

## Energy and Man

Instructor: Smith, Norman  
(207) 581-7265  
Course Number: AE 41  
Department: Agr. Engineering  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Conversion;  
Energy Storage; Intro. to Solar Energy;  
Solar Economics  
Number of Times Taught: 8  
Average Enrollment: 25

## Mechanical Engineering Laboratory

Instructor: Hill, Richard C.  
(207) 581-7228  
Course Number: ME 72  
Department: Engineering & Science  
Credits: 2  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Laboratory: 39  
Topics Covered Extensively: Biomass  
Conversion; Intro. to Solar Energy;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 24

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## Other Educational Institutions

**CORNERSTONES, WING SCHOOL OF SHELTER TECHNOLOGY** (90090)  
54 Cumberland St.  
Brunswick, Maine 04011

**SOLAR RELATED COURSES***Advanced New House*

Course Number: B  
Duration: 3 Weeks, 35.0 hrs per week  
Contact Hours: 105  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction

*Passive Solar Building Design*

(207) 729-0540  
Course Number: E  
Duration: 1 Weeks, 35.0 hrs per week  
Contact Hours: 35  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction

*Passive Solar House Design & Construction*

Instructor: Wing, Charles  
(207) 729-0540  
Course Number: A  
Credits: 3  
Student Level: All levels  
Duration: 8 Weeks, 6.0 hrs per week  
Contact Hours: 48  
Class Size: 45  
Topics Covered Extensively: Energy  
Conservation; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar Home Construction  
Number of Times Taught: 30  
Average Enrollment: 30

*Retrofitting Existing Structures*

(207) 729-0540  
Course Number: C  
Duration: 3 Weeks, 35.0 hrs per week  
Contact Hours: 105  
Topics Covered Extensively: Alternate  
Energy Sources; Passive Solar  
Technology; Solar Home Construction

*Solar Greenhouses*

(207) 729-0540  
Course Number: D  
Duration: 1 Weeks, 35.0 hrs per week  
Contact Hours: 35  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction

*The Design Workshop*

Instructor: Colburn, Gary  
(207) 729-0540  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction

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**Portland Vocational Center** (90410)  
Portland, Maine 04111

**SOLAR RELATED COURSES**

*\*Training in Solar Installation*  
Topics Covered Extensively: Solar  
Systems Installation

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**SHELTER INSTITUTE** (90240)  
58 Center Street  
Bath, Maine 04530

**SOLAR RELATED COURSES***\*Passive Solar Design*

Instructor: Hennin, Patsy  
(207) 443-9084  
Duration: 15 Weeks  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction

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## Colleges/Universities

**LOYOLA COLLEGE** (2078)  
BALTIMORE, Maryland 21210  
(301) 323-1010

## SOLAR RELATED COURSES

*Energy and Environment*

Instructor: Haig, Frank R.  
(301) 323-1010  
Course Number: PH 150  
Department: Physics, Eng'g.,  
Computer Sci.  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

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**MD COLLEGE PARK CAM. U OF** (2103)  
COLLEGE PARK, Maryland 20742  
(301) 454-0100

## PROGRAMS AND CURRICULA

*Mechanical Engr./Solar Energy*

Degree: BS, Science  
Contact: Cunniff, P. F.  
(301) 454-2410

## SOLAR RELATED COURSES

*Engineering Applications of Solar Energy*

Instructor: Allen, R. W.  
(301) 454-4994  
Course Number: ENME 415  
Department: Mechanical Engineering  
Program or Curriculum: Mechanical Engr./ Solar  
Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 1  
Average Enrollment: 40

*Environmental Systems in Architecture*

Instructor: Lord, David  
(301) 454-3428  
Course Number: ARCH 514  
Department: Architecture  
Program or Curriculum: Mechanical Engr./ Solar  
Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 6.0 hrs per week  
Contact Hours: 84

Classroom: 56  
Laboratory: 28  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Solar  
Systems Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 4  
Average Enrollment: 7

*Solar Energy Applications in Buildings*

Instructor: Allen, R. W.  
(301) 454-4994  
Course Number: ENES 414  
Department: Mechanical Engineering  
Program or Curriculum: Mechanical Engr./ Solar  
Energy  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Energy  
Storage; Passive Solar Technology;  
Solar System Components; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 5  
Average Enrollment: 35

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**TOWSON STATE UNIVERSITY** (2099)  
BALTIMORE, Maryland 21204  
(301) 321-2000

## SOLAR RELATED COURSES

*Alt. Ener. Sources - Homemaker*

Instructor: Beckey, R.  
(301) 321-2977  
Student Level: All levels  
Duration: 1 Weeks, 6.0 hrs per week  
Contact Hours: 6  
Topics Covered Extensively: Alternate  
Energy Sources; Passive Solar  
Technology; Solar Collector  
Evaluation/Design; Domestic Hot Water

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**US NAVAL ACADEMY** (2101)  
ANNAPOLIS, MARYLAND, Maryland 21402  
(301) 267-6100

## SOLAR RELATED COURSES

*Energy Conversion*

Instructor: Wu, C.  
(301) 267-3186  
Course Number: EN443  
Department: Mechanical Engineering  
Credits: 3

Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Conversion; Intro. to Solar  
 Energy; Solar Economics; Solar  
 Collector Evaluation/Design; Domestic  
 Hot Water  
 Number of Times Taught: 5  
 Average Enrollment: 50

**Ocean Energy Conversion**

Instructor: McCormick, M.E.  
 (301) 267-3873  
 Course Number: EN474  
 Department: Naval Systems  
 Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Alternate  
 Energy Sources  
 Number of Times Taught: 1  
 Average Enrollment: 30

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**Community/Junior Colleges**

**ALLEGANY CNTY COLLEGE** (2057)  
 CUMBERLAND, Maryland 21502  
 (301) 724-7700

**SOLAR RELATED COURSES****Industrial Systems I**

Instructor: Myers, Robert W.  
 (301) 724-7700  
 Course Number: 203  
 Department: Electromechanical  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 26  
 Laboratory: 38  
 Number of Times Taught: 3  
 Average Enrollment: 12

**Industrial Systems II**

Instructor: Myers, Robert W.  
 (301) 724-7700  
 Course Number: 204  
 Department: Electromechanical  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 26  
 Laboratory: 38  
 Number of Times Taught: 3

Average Enrollment: 12

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**DUNDALK CNTY COLLEGE** (9935)  
 BALTIMORE, Maryland 21222  
 (301) 282-6700

**SOLAR RELATED COURSES****Solar Energy: Installation and Maintenance**

Instructor: Leddon, Jack  
 (301) 282-6700  
 Department: Math/Science  
 Student Level: All levels  
 Duration: 15 Weeks, 2.0 hrs per week  
 Contact Hours: 30  
 Classroom: 15  
 Laboratory: 15  
 Topics Covered Extensively: Energy  
 Storage; Intro. to Solar Energy; Solar  
 Energy Policy Development; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Law/Legislation;  
 Solar Collector Evaluation/Design;  
 Solar Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Solar Systems Testing and  
 Evaluation; Space Heating; Space  
 Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 15

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**HARFORD COMMUNITY COLLEGE** (2075)  
 BEL AIR, Maryland 21014  
 (301) 838-1000

**SOLAR RELATED COURSES****Principles and Applications of Solar Energy**

Course Number: 095  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Passive Solar Technology

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**Vocational/Technical Colleges**

**RETS TECH CENTER** (90050)  
 511 Russell Street  
 Baltimore, Maryland 21230  
 (301) 727-6863

**PROGRAMS AND CURRICULA**

*Refrig., Climate Control and Clean Air*  
 Degree: Refrig.-Climate Cont.-Clean Air  
 Contact: Tickler, Earl M.  
 (301) 727-6863  
 Students Taking or Completing Offering:  
 Installer-Residential (Solar System),  
 Solar Technician, Trade Specialty

**SOLAR RELATED COURSES**

*Refrig.- Climate Control- Clean Air*  
 Instructor: Tickler, Earl M.  
 (301) 727-6863  
 Program or Curriculum: Refrig., Climate Control and Clean Air  
 Student Level: High School Graduate  
 Duration: 6 Weeks, 30.0 hrs per week  
 Contact Hours: 180  
 Classroom: 90  
 Laboratory: 60  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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## Colleges/Universities

**AMHERST COLLEGE** (2115)  
AMHERST, Massachusetts  
(413) 542-2000

## SOLAR RELATED COURSES

## \*Energy

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**BOSTON COLLEGE** (2128)  
CHESTNUT HILL, Massachusetts  
(617) 969-0100

## SOLAR RELATED COURSES

## Energy

Instructor: deBethune, Andre J.  
Course Number: CH 152  
Department: Art and Sci., Chem.,  
Even., College  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Domestic Hot Water; Wind Power, Central  
Systems; Wind Power, Small Systems  
Number of Times Taught: 4  
Average Enrollment: 25

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**BOSTON UNIVERSITY** (2130)  
BOSTON, Massachusetts  
(617) 353-2000

## SOLAR RELATED COURSES

## Man and Energy

Instructor: Lichtin, Norman N.  
(617) 353-2493  
Course Number: UNI-EY-501  
Department: University Professors  
Credits: 4  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39

## Solar Heating

Course Number: MET EM 510  
Department: Metropolitan College  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Domestic Hot Water;

## Space Heating

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**BRIDGEWATER STATE COLLEGE** (2183)  
BRIDGEWATER, Massachusetts  
(617) 697-8321

## SOLAR RELATED COURSES

## Solar Energy

Instructor: Blackford, Paul A.  
(617) 697-8321  
Course Number: GE 412  
Department: Earth Sciences and  
Geography  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Economics;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Space Heating  
Number of Times Taught: 6  
Average Enrollment: 19

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**CLARK UNIVERSITY** (2139)  
WORCESTER, Massachusetts  
(617) 793-7177

## SOLAR RELATED COURSES

## Alternative Energy Systems Laboratory

Instructor: Gottlieb, Albert  
(617) 793-7439  
Course Number: STS 132  
Department: Science, Technology and  
Society  
Student Level: Junior or Senior  
Duration: 14 Weeks, 6.0 hrs per week  
Contact Hours: 84  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Photovoltaics; Solar Collector  
Evaluation/Design; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water; Elec'l Generation, Small Scale;  
Space Heating; Wind Power, Small  
Systems  
Number of Times Taught: 2  
Average Enrollment: 10

## Solar and Wind Energy for Home Use

Instructor: Russell, John I.  
(617) 852-3753  
Course Number: ID 109  
Department: Prof. and Cont. Edu.  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42

Classroom: 42

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 2  
 Average Enrollment: 18

**Solar Energy**

Instructor: Davies, John  
 Course Number: STS 131  
 Department: Science, Technology, Society  
 Credits: 4  
 Student Level: All levels  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Intro. to Solar Energy; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 40

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HARVARD UNIVERSITY  
 CAMBRIDGE, Massachusetts  
 (617) 495-1000

(2155)

**SOLAR RELATED COURSES****Solar Heating: Basic Issues**

Instructor: Hapgood, William  
 Department: Center for Lifelong Learning  
 Student Level: All levels  
 Duration: 6 Weeks, 2.0 hrs per week  
 Contact Hours: 12  
 Number of Times Taught: 0

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LOWELL, UNIVERSITY OF  
 LOWELL, Massachusetts  
 (617) 454-7811

(2161)

**PROGRAMS AND CURRICULA****Appl. Physics - Solar Ener. Option**

Degree: PhD, MS, Physics, Solar Energy Option  
 Contact: Filippone, William  
 (617) 454-7811  
 Students Taking or Completing Offering: Researcher, Solar Engineer

**Solar Energy**

Degree: MS, BS, Engineering or Science  
 Contact: Filippone, William  
 (617) 454-7811

Students Taking or Completing Offering: Researcher, Solar Engineer

**SOLAR RELATED COURSES****Advanced Solar Energy**

Instructor: Filippone, William  
 (617) 454-7811  
 Course Number: 24-513  
 Department: Nuclear Engineering  
 Program or Curriculum: Appl. Physics - Solar Ener. Option  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Small Systems  
 Number of Times Taught: 1  
 Average Enrollment: 10

**Geothermal and Wind Energy Systems**

Instructor: Sheff, James R.  
 (617) 454-7811  
 Course Number: 0  
 Department: Nuclear Engineering  
 Program or Curriculum: 24-530  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 1  
 Average Enrollment: 15

**Solar Energy**

Instructor: Filippone, William  
 (617) 454-7811  
 Course Number: 24-425  
 Department: Nuclear Engineering  
 Program or Curriculum: Solar Energy  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 2



Average Enrollment: 18

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MASS AMHERST CAMPUS, U OF  
AMHERST, Massachusetts  
(413) 545-0111 (2221)

## PROGRAMS AND CURRICULA

## Energy Program

Degree: BS, Mechanical  
Engineering-Energy Option  
Contact: Cromack, Duane  
(413) 545-2756

## SOLAR RELATED COURSES

## Engineering Wind Power Systems

Instructor: Cromack, Duane E.  
(413) 545-2756  
Course Number: NE3/90C90H  
Department: Mechanical Engineering  
Program or Curriculum: Energy Program  
Credits: 33  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 37  
Laboratory: 5  
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Wind Power, Small Systems  
Number of Times Taught: 4  
Average Enrollment: 20

## Solar and Direct Energy Conversion

Instructor: McGowan, J.  
Course Number: 570  
Department: Mechanical Engineering  
Program or Curriculum: Energy Program  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 20

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MASS INST OF TECHNOLOGY (2178)  
CAMBRIDGE, Massachusetts  
(617) 253-1000

## SOLAR RELATED COURSES

## Design with Microclimate

Instructor: Johnson, Tim  
(617) 253-5965  
Course Number: 4.071J  
Department: Architecture  
Program or Curriculum: Arch. Study  
Credits: 12  
Student Level: All levels  
Duration: 13 Weeks, 6.0 hrs per week  
Contact Hours: 78  
Classroom: 39  
Laboratory: 39  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology  
Number of Times Taught: 3  
Average Enrollment: 25

## Energy Economics and Policy

Instructor: Jacoby, H.D./  
Zimmerman, M.B.  
(617) 253-6609  
Course Number: 15.923  
Department: Management - Applied Economics  
Program or Curriculum: Arch. Study  
Credits: 9  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Energy Conservation; Marketing/Market Analysis; Solar Energy Policy Development  
Number of Times Taught: 5  
Average Enrollment: 25

## Energy Prod. from Renewable Resources

Instructor: Fay, J.A.  
(617) 253-2236  
Course Number: 2.63  
Department: Mechanical Engineering  
Program or Curriculum: Arch. Study  
Credits: 12  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 2

Average Enrollment: 25

**Energy Technology**

Instructor: Howard, J.B.  
(617) 253-4574  
Course Number: 10.39  
Department: Chemical Engineering  
Program or Curriculum: Arch. Study  
Credits: 9  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy Storage  
Number of Times Taught: 5  
Average Enrollment: 34

**Materials for Advanced Energy Systems**

Instructor: Bowen, H.K. / Adler, D.  
(617) 253-6892  
Course Number: 3.74J  
Department: Materials Science & Engineering  
Program or Curriculum: Arch. Study  
Credits: 12  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Materials Research; Photovoltaics

**Solar Energy Systems**

Instructor: Pratt, G.W. / Thornton, R.D.  
(617) 253-4636  
Course Number: 6.725  
Department: Elect. Engineering & Computer Sci.  
Program or Curriculum: Arch. Study  
Credits: 12  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Wind Power, Small Systems  
Number of Times Taught: 3  
Average Enrollment: 20

**The Biosphere**

Instructor: Bell, E.  
(617) 253-4712  
Course Number: 7.13  
Department: Biology  
Program or Curriculum: Arch. Study  
Credits: 8

Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Number of Times Taught: 3  
Average Enrollment: 15

**Uses of Energy in Buildings**

Instructor: Vamasi, Stephen  
(617) 253-7659  
Course Number: 4.45  
Department: Architecture  
Program or Curriculum: Arch. Study  
Credits: 9  
Student Level: College Graduate  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 56  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics  
Number of Times Taught: 1  
Average Enrollment: 50

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NORTH ADAMS STATE COLLEGE (2187)  
NORTH ADAMS, Massachusetts  
(413) 664-4511

**PROGRAMS AND CURRICULA****Self Sufficient Prog.-Solar**

Degree: BA, BS, NO, Physics  
Contact: Seeley, William G.  
(413) 664-4511

Students Taking or Completing Offering:  
Solar Engineer, Installer-Residential (Solar System), Installer-Commercial (Solar System), Solar Technician

**SOLAR RELATED COURSES****Alternate Energy Techniques**

Instructor: Seeley, W.  
(413) 664-4511  
Course Number: DI171  
Department: Physics  
Program or Curriculum: Self Sufficient Prog.-Solar  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 30  
Laboratory: 15  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Number of Times Taught: 6  
Average Enrollment: 25

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**NORTHEASTERN UNIVERSITY** (2199)  
BOSTON, Massachusetts  
(617) 437-2000

#### SOLAR RELATED COURSES

##### *Heat and Mass Transfer*

Instructor: Foster, Arthur R.  
(617) 437-3811  
Course Number: 02.260  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 20

##### *Sol. Water Heat., Space Heat. 310*

Instructor: Smith, Robert O./  
Meeker, J.  
(617) 965-5428  
Course Number: 93.310  
Department: Lincoln College  
Credits: 2  
Student Level: Junior or Senior  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 22  
Classroom: 22  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Solar System Components; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating

##### *Sol. Water Heat., Space Heat. 311*

Instructor: Smith, Robert O./  
Meeker, J.  
(617) 965-5428  
Course Number: 93.311  
Department: Lincoln College  
Credits: 2  
Student Level: Junior or Senior  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 22  
Classroom: 22  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Solar System Components; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating

##### *Solar Thermal Engineering I*

Instructor: Foster, Arthur R.  
(617) 437-3811  
Course Number: 02.855  
Department: Mechanical Engineering  
Credits: 2  
Student Level: College Graduate  
Duration: 12 Weeks, 2.0 hrs per week  
Classroom: 24  
Topics Covered Extensively: Heat and Energy Transfer; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 15

##### *Solar Thermal Engineering II*

Instructor: Foster, Arthur R.  
(617) 437-3811  
Course Number: 02.856  
Department: Mechanical Engineering  
Student Level: College Graduate  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Topics Covered Extensively: Heat and Energy Transfer; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 15

##### *The Energy Crisis: Solar Energy*

Instructor: Williams, John A.  
(617) 437-2991  
Course Number: 04.862  
Department: Chemical Engineering  
Credits: 2  
Student Level: College Graduate  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Domestic Hot Water  
Number of Times Taught: 2  
Average Enrollment: 35

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**SPRINGFIELD COLLEGE** (2211)  
SPRINGFIELD, Massachusetts  
(413) 787-2100

#### SOLAR RELATED COURSES

##### *Energy 81*

Instructor: Polito, Peter J.  
(413) 787-2084  
Course Number: PHY81  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate

Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Solar Home  
Construction; Domestic Hot Water;  
Swimming Pool Heating; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale; Space Heating; Space  
Cooling; Wind Power, Central Systems;  
Wind Power, Small Systems

**Energy 82**

Instructor: Polito, Peter J.  
(413) 787-2084  
Course Number: PHY 82  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Solar Home  
Construction; Domestic Hot Water;  
Swimming Pool Heating; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale; Space Heating; Space  
Cooling; Wind Power, Central Systems;  
Wind Power, Small Systems

**Energy 83**

Instructor: Polito, Peter J.  
(413) 787-2084  
Course Number: PHY 83  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Solar Home  
Construction; Domestic Hot Water;  
Swimming Pool Heating; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale; Space Heating; Space  
Cooling; Wind Power, Central Systems;  
Wind Power, Small Systems

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STHETH MASS UNIVERSITY (2210)  
NORTH DARTMOUTH, Massachusetts  
(617) 997-9321

**SOLAR RELATED COURSES****Energy and Energy Alternatives**

Instructor: Bento, Robert  
(617) 997-9321  
Course Number: PH 163  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation  
Number of Times Taught: 2  
Average Enrollment: 30

**Science, Technology, and Society I**

Instructor: Bento, Robert  
(617) 997-9321  
Course Number: PH 161  
Department: Arts & Sciences/Physics  
Credits: 3  
Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 26  
Laboratory: 13  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy  
Number of Times Taught: 5  
Average Enrollment: 100

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KENTWORTH INST OF TECH (29099)  
EOSTON, Massachusetts  
(617) 442-9010

**SOLAR RELATED COURSES****\*Arch: Solar and Ener. Conservation**

Instructor: Balich, George  
Department: Architecture  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Solar Home  
Construction

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WORCESTER POLY INSTITUTE (2233)  
WORCESTER, Massachusetts  
(617) 753-1411

**PROGRAMS AND CURRICULA****Major Qualifying Project**

Degree: BS, Science  
Contact: Eolz, R.E.  
(617) 753-1411

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**WORCESTER STATE COLLEGE** (2190)  
 WORCESTER, Massachusetts  
 (617) 752-7700

**SOLAR RELATED COURSES***Energy Applications and Techniques*

Instructor: Kelley, Robert F.  
 (617) 752-7700  
 Course Number: NS8-404  
 Department: Natural Science/Physics  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Laboratory: 48  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design  
 Number of Times Taught: 1  
 Average Enrollment: 9

*Energy, Cons., Management for Householder*

Instructor: Dick, Daniel E.  
 (617) 752-7700  
 Course Number: 8-136  
 Department: Natural Sciences/Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 2.5 hrs per week  
 Contact Hours: 38  
 Classroom: 38  
 Topics Covered Extensively: Energy Conservation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 30

*Man's Environment - The World of Energy*

Instructor: Chapman, Harold L.  
 (617) 752-7700  
 Course Number: NS 8230  
 Department: Natural Science/Physics  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy  
 Number of Times Taught: 1  
 Average Enrollment: 25

*Shelter, Des., Alt. Energy*

Instructor: Dick, Daniel E.  
 (617) 752-7700  
 Course Number: 8-135  
 Department: Art  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 2.5 hrs per week

Contact Hours: 38  
 Classroom: 38  
 Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Systems Design; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 12

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**Community/Junior Colleges**

**BRISTOL COMMUNITY COLLEGE** (2176)  
 FALL RIVER, Massachusetts  
 (617) 678-2811

**PROGRAMS AND CURRICULA***\*Energy Program\**

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**BUNKER HILL CNTY COLLEGE** (11210)  
 CHARLESTOWN, Massachusetts  
 (617) 241-8600

**SOLAR RELATED COURSES***Issues in Energy*

Instructor: Chisholm, Francis E.  
 (617) 241-8600  
 Department: Science  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

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**CAPE COD CNTY COLLEGE** (2168)  
 WEST BARNSTABLE, Massachusetts  
 (617) 362-2131

**PROGRAMS AND CURRICULA***Energy Systems Technology*

Degree: AD, Science  
 Contact: Panitz, Ted  
 (617) 362-2131  
 Students Taking or Completing Offering: Solar Technician



## SOLAR RELATED COURSES

## Energy Systems I-A Survey of Energy Alternatives

Instructor: Panitz, Ted  
(617) 362-2131  
Course Number: TE 130  
Department: Industry Related Technology Program  
Program or Curriculum: Energy Systems Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 15  
Topics Covered Extensively: Alternate Energy Sources  
Number of Times Taught: 3  
Average Enrollment: 15

## Energy Systems II - Solar Energy I

Instructor: Panitz, Ted  
(617) 362-2131  
Course Number: TE 131  
Department: Industry Related Technologies  
Program or Curriculum: Energy Systems Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 15  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 35

## Energy Systems III - Solar Energy II

Instructor: Panitz, Ted  
(617) 362-2131  
Course Number: TE 132  
Department: Industry Related Technologies  
Program or Curriculum: Energy Systems Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 15  
Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 1  
Average Enrollment: 18

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FRANKLIN INST OF BOSTON  
BOSTON, Massachusetts  
(617) 423-4630

(2151)

## SOLAR RELATED COURSES

## Solar and Alt. Ener. Sys. Design

Instructor: Powe, William  
(617) 423-4630  
Course Number: ES 426  
Department: Energy System Engineering  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 7.0 hrs per week  
Contact Hours: 105  
Classroom: 60  
Laboratory: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 0  
Average Enrollment: 3

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NORTH SHORE CNTY COLLEGE  
BEVERLY, Massachusetts  
(617) 927-4850

(2173)

## SOLAR RELATED COURSES

## Solar Energy - New Approaches, New Hopes

Instructor: Powell, James  
(617) 927-4850  
Department: Continuing Education  
Student Level: High School Graduate  
Duration: 10 Weeks, 1.0 hrs per week  
Contact Hours: 10

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**SPRINGFIELD TECHNICAL CC**  
 SPRINGFIELD, Massachusetts  
 (413) 781-6470

(8078)

## PROGRAMS AND CURRICULA

*\*Solar Energy Option*

Degree: AD, Solar Energy  
 Contact: Murray, Carl  
 (413) 781-6470

## SOLAR RELATED COURSES

*\*Courses in Solar Technology*

Department: Eng'n. Tech.  
 Program or Curriculum: *\*Solar Energy Option*  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

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## Other Educational Institutions

**BLUE HILLS REG TECH INST**  
 CANTON, Massachusetts  
 (617) 828-5800

(5523)

## SOLAR RELATED COURSES

*Solar Heating Systems Design*

Instructor: O'Leary, Timothy  
 Course Number: HV-35  
 Department: Heating, Ventilating and A/C Tech.  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

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**BOSTON ARCHITECTURAL CENTER**  
 320 Newbury St.  
 Boston, Massachusetts

(90190)

## SOLAR RELATED COURSES

*\*Computers, Ener. and the Built Env.*

Duration: 1.0 Days  
 Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction

*\*Solar Heating System Design*

Instructor: Smith, Bob  
 Duration: 8 Weeks

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**HEARTWOOD**

(90210)

Johnson Rd.  
 Johnson Rd., Massachusetts

## SOLAR RELATED COURSES

*\*Passive Solar Homes*

Instructor: Velonis, E./ Misson, N/  
 Kehner, D.  
 (413) 623-6677  
 Duration: 3 Weeks

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**HOOSUCK INSTITUTE**

(90220)

Windsor Mill  
 N. Adams, Massachusetts 01247

## SOLAR RELATED COURSES

*Arch and the Environment*

Instructor: Ekstrom, R./ Green, K.  
 (413) 664-6302  
 Credits: 2  
 Duration: 2 Weeks, 10.0 hrs per week  
 Contact Hours: 20  
 Topics Covered Extensively: Passive Solar Technology; Solar Law/Legislation

*\*Energy from the Sun, Wind, and Water*

Instructor: R. Ekstrom/ Knuth, R.  
 (413) 664-6302  
 Credits: 3  
 Duration: 2 Weeks, 10.0 hrs per week  
 Contact Hours: 20  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Elec'l Generation, Small Scale; Wind Power, Small Systems

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Massachusetts

Solar Energy Research Institute

NORTHEAST INSTITUTE OF INDUSTRIAL  
TECHNOLOGY

(90060)

41 Phillips St.  
Boston, Massachusetts 02114

PROGRAMS AND CURRICULA

*Installing Solar Water Heaters*  
Degree: Solar Water Systems  
Contact: Galvin, G. M.  
(617) 523-2813

SOLAR RELATED COURSES

*Installing Solar Water Heating*  
Instructor: Smith, Robert O./  
Lannon, E.  
(617) 523-2813  
Department: Air Conditioning,  
Refrigeration Tech.  
Program or  
Curriculum: Installing Solar Water  
Heaters  
Student Level: College Graduate  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Number of Times Taught: 4  
Average Enrollment: 30

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THE CAMBRIDGE SCHOOL - WESTON CNT.  
FOR OPEN EDU.

(90200)

Weston, Massachusetts

SOLAR RELATED COURSES

*\*Adapting Heating Systems for Solar Use*  
(617) 965-5428

Topics Covered Extensively: Space  
Heating

*\*Adv. Studies in Solar Heating*  
(617) 965-5428

Topics Covered Extensively: Space  
Heating

*\*Basic Solar Heating*  
(617) 965-5428

Topics Covered Extensively: Space  
Heating

*\*Biomass for Energy*  
(617) 965-5428

Topics Covered Extensively: Biomass  
Conversion

*\*Designing Your Own Solar System*  
(617) 965-5428

Topics Covered Extensively: Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating

*\*Photovoltaics*  
(617) 965-5428

Topics Covered Extensively:  
Photovoltaics

*\*Power from the Sea*  
(617) 965-5428

*\*Small Wind Mills*  
(617) 965-5428

Topics Covered Extensively: Wind Power,  
Small Systems

*\*Solar Heating Added to Your House*  
(617) 965-5420

*\*Solar Heating System Design*  
(617) 965-5428

Topics Covered Extensively: Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating

*\*Wind Machines*  
(617) 965-5420

Topics Covered Extensively: Wind Power,  
Central Systems; Wind Power, Small  
Systems

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**Colleges/Universities**

**CENTRAL MICH UNIVERSITY** (2243)  
MOUNT PLEASANT, Michigan 48858  
(517) 774-3151

**SOLAR RELATED COURSES***Energy Efficient Design and Cons.*

Instructor: Ecker, Louis G./ Nee, John  
(517) 774-3996  
Course Number: 697  
Department: Industrial Education/Technology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 6 Weeks, 13.0 hrs per week  
Contact Hours: 80  
Classroom: 60  
Laboratory: 20

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 30

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**DETROIT, UNIVERSITY OF** (2323)  
DETROIT, Michigan 48221  
(313) 927-1000

**SOLAR RELATED COURSES***Energy & Architecture*

Instructor: LaGrassa, Stephen  
(313) 927-1532  
Course Number: ART 514  
Department: Architecture  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Number of Times Taught: 1  
Average Enrollment: 15

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**EASTERN MICH UNIVERSITY** (2259)  
YPSILANTI, Michigan 48197  
(313) 487-1849

**SOLAR RELATED COURSES***Solar Energy in Construction*

Instructor: Kicklighter, Clois E.  
(313) 487-4330  
Course Number: 539

Department: Industrial Technology/Industrial Education  
Credits: 2  
Student Level: College Graduate  
Duration: 2 Weeks, 15.0 hrs per week  
Contact Hours: 30  
Classroom: 20  
Laboratory: 10  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water  
Number of Times Taught: 1  
Average Enrollment: 16

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**FERRIS STATE COLLEGE** (2260)  
BIG RAPIDS, Michigan 49307  
(616) 796-9971

**PROGRAMS AND CURRICULA***Refrig., Heating and Air Conditioning Technology*

Degree: AD, Applied Science in Refrig., Heating, and Air Conditioning  
Contact: Shane, James B.  
(616) 796-9971

Students Taking or Completing Offering:  
Installer-Commercial (Solar System),  
Installer-Residential (Solar System),  
Solar Technician, Trade Specialty

**SOLAR RELATED COURSES***Advanced Air Conditioning*

Instructor: Holt, Joe  
(616) 796-9971  
Course Number: RHA 263  
Department: Construction  
Program or Curriculum: Refrig., Heating and Air Conditioning Technology  
Credits: 9  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 20.0 hrs per week  
Contact Hours: 200  
Classroom: 50  
Laboratory: 150  
Average Enrollment: 18

*Energy Conservation in Building Design*

Instructor: Kantor, Mel  
(616) 796-9971  
Course Number: A-D 302  
Department: Construction  
Program or Curriculum: Refrig., Heating and Air Conditioning

Technology  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30  
**Topics Covered Extensively:** Energy Conservation; Passive Solar Technology; Solar Home Construction; Space Heating

**Energy Use and Conservation**

**Instructor:** Erion, John  
 (616) 796-9971  
**Course Number:** BCT 302  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating and Air Conditioning Technology

**Credits:** 4  
**Student Level:** All levels  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Classroom:** 30  
**Laboratory:** 20  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Installation; Domestic Hot Water; Space Heating

**\* Heating**

**Instructor:** Stevens, Russ  
 (616) 796-9971  
**Course Number:** RHA 262  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating, and Air Conditioning Technology  
**Credits:** 9  
**Student Level:** Freshman or Sophomore  
**Duration:** 10 Weeks, 20.0 hrs per week  
**Contact Hours:** 200  
**Classroom:** 50  
**Laboratory:** 150  
**Topics Covered Extensively:** Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Maintenance; Space Heating  
**Average Enrollment:** 18

**Summer Air Conditioning**

**Instructor:** Lawrence, Fred/ Shaw, Dick  
 (616) 796-9971  
**Course Number:** RHA 261  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating and Air Conditioning Technology  
**Credits:** 9  
**Student Level:** Freshman or Sophomore  
**Duration:** 10 Weeks, 20.0 hrs per week

**Contact Hours:** 200  
**Classroom:** 50  
**Laboratory:** 150  
**Topics Covered Extensively:** Plumbing Techniques; Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
**Average Enrollment:** 18

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**GENERAL MOTORS INSTITUTE**

(2262)

FLINT, Michigan 48502  
 (313) 766-2353

**PROGRAMS AND CURRICULA****Solar Energy**

**Degree:** Continuing Engineering Education Certificate  
**Contact:** Brink, Michael  
 (313) 776-9881

**Students Taking or Completing Offering:** Architect, Educator, Researcher, Solar Engineer, Other

**SOLAR RELATED COURSES****Solar Energy**

**Instructor:** Brink, Michael  
 (313) 766-9881  
**Course Number:** E150310  
**Department:** Mechanical Engineering  
**Program or Curriculum:** Solar Energy  
**Student Level:** College Graduate  
**Duration:** 1 Weeks, 24.0 hrs per week  
**Contact Hours:** 24  
**Classroom:** 21  
**Laboratory:** 3  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat, Industrial; Wind Power, Small Systems; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 10

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**GRAND VALLEY ST COLLEGES**  
 ALLENDALE, Michigan 49401  
 (616) 895-6611

(2268)

**PROGRAMS AND CURRICULA**

**Alt. Ener. Emph. - Urban, Environ. Studs.**

**Degree:** BS, Urban, Envi. Studies-Alt. Ener.

**Contact:** Bailey, Rod  
 (616) 895-6611

**Students Taking or Completing Offering:**



Educator, Do-it-yourself Homeowner,  
Solar Technician

## SOLAR RELATED COURSES

*Alternative Energy Systems*

Instructor: Bailey, Rod  
(616) 895-6611  
Course Number: 1579  
Department: William James College  
Program or Curriculum: Alt. Ener. Emph.-  
Urban, Environ. Studs.  
Credits: 5  
Student Level: All levels  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 50  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Passive Solar  
Technology; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 4  
Average Enrollment: 40

*Solar Energy System Design*

Instructor: Bailey, Rod  
(616) 895-6611  
Course Number: 1734  
Department: William James College  
Program or Curriculum: Alt. Ener. Emph.-Urban,  
Environ. Studs.  
Student Level: All levels  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 25  
Laboratory: 25  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Domestic Hot Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 50

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## JORDAN COLLEGE

(29091)

CEDAR SPRINGS, Michigan 49319  
(616) 696-1180

PROGRAMS AND CURRICULA

*Energy and Environmental Studies*

Degree: BS, Alternate and  
Environmental Studies  
Contact: Till, Gordon Vander  
(616) 696-1180

Students Taking or Completing Offering:  
Educator, Researcher, Solar Technician

## SOLAR RELATED COURSES

*Bio-Gas*

Instructor: Martin, Alan O.  
(616) 696-1180  
Course Number: 240  
Department: Energy Division  
Program or Curriculum: Energy & Environmental  
Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Conversion  
Number of Times Taught: 1  
Average Enrollment: 20

*Geo-Thermal and other Geological Alternatives*

Instructor: Tyler, John  
(616) 696-1180  
Course Number: 220  
Department: Energy Division  
Program or Curriculum: Energy & Environmental  
Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources

*Hydro-electricity*

Instructor: Gates, Timothy  
(616) 696-1180  
Course Number: 220  
Department: Energy Division  
Program or Curriculum: Energy & Environmental  
Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology  
Number of Times Taught: 3  
Average Enrollment: 25

*Solar I*

Instructor: Gates, Timothy  
(616) 696-1180  
Course Number: 200  
Department: Energy Division  
Program or Curriculum: Energy and  
Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector

Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Space Heating  
Number of Times Taught: 8  
Average Enrollment: 50

**Wind Energy Conversion Systems**

Instructor: Bregg, Gary  
(616) 696-1180  
Course Number: 210  
Department: Energy Division  
Program or Curriculum: Energy and  
Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage;  
Materials Research; Wind Power, Small  
Systems  
Number of Times Taught: 3  
Average Enrollment: 20

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**LAWRENCE INST TECHNOLOGY**  
SOUTHFIELD, Michigan 48075  
(313) 356-0200

(2279)

**SOLAR RELATED COURSES****\*Natural Energy Sources**

Department: Architecture  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Wind Power, Small Systems

**\*Solar Energy**

Department: Architecture  
Student Level: Junior or Senior  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Passive Solar  
Technology; Solar Economics; Solar  
Collector Evaluation Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating; Space Cooling

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**MICHIGAN STATE UNIVERSITY**  
EAST LANSING, Michigan 48824  
(517) 355-1855

(2290)

**SOLAR RELATED COURSES****Development of Solar Energy Designs**

Instructor: Zapp, H. R.  
(517) 355-5230  
Course Number: EGR 480  
Department: Electrical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 40  
Classroom: 40

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Marketing/Market Analysis; Passive  
Solar Technology; Photovoltaics; Solar  
Energy Policy Development; Solar System  
Components; Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating; Wind Power,  
Central Systems; Wind Power, Small  
Systems

Number of Times Taught: 2  
Average Enrollment: 30

**Direct Energy Conversion**

Instructor: Kerber, R.  
(517) 353-9492  
Course Number: ME 414  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Photovoltaics; Elec'l  
Generation, Small Scale  
Number of Times Taught: 5  
Average Enrollment: 30

**Solar Energy Conversion**

Instructor: Dhanak, A. M.  
(517) 355-5160  
Course Number: ME 490  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 50

**Technology and Utilization of Energy**

Instructor: Dhanak, A. M.  
(517) 355-5160  
Course Number: ME 300  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion  
Number of Times Taught: 7  
Average Enrollment: 60

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**MICHIGAN TECHNOLOGICAL U** (2292)  
HOUGHTON, Michigan 49931  
(906) 487-1865

**SOLAR RELATED COURSES***Environmental Control Engineering*

Instructor: Frea, Ward  
(906) 487-2567  
Course Number: ME437  
Department: Mech.  
Engineering-Engineering  
Mech.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Average Enrollment: 15

*Forest Synecology*

Instructor: Coffman, M.S.  
(906) 487-2339  
Course Number: FP510  
Department: Forestry  
Credits: 4  
Student Level: College Graduate  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 36  
Laboratory: 12  
Average Enrollment: 10

*Heat Transfer*

Instructor: Frea, Ward  
(906) 487-2567  
Course Number: ME328  
Department: Mech.  
Engineering-Engineering  
Mech.  
Credits: 4  
Student Level: Junior or Senior  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Heat and Energy Transfer  
Average Enrollment: 75

*Radiative Heat Transfer*

Instructor: Frea, Ward  
(906) 487-2567  
Course Number: ME507  
Department: Mech.  
Engineering-Engineering  
Mech.  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Heat and Energy Transfer

*Special Topics in Elect. Engrg.*

Instructor: Schwartz, P.F.  
(906) 487-2530

Course Number: EE490  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Materials Research; Photovoltaics  
Number of Times Taught: 1  
Average Enrollment: 27

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**MICHIGAN- ANN ARBOR, U** (9092)  
ANN ARBOR, Michigan 48109  
(313) 764-1817

**SOLAR RELATED COURSES***Applied Energy Conversion*

Instructor: Pearson, J. R.  
(313) 764-8464  
Course Number: 437  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Number of Times Taught: 8  
Average Enrollment: 15

*Direct Energy Conversion*

Instructor: Pearson, J. R.  
(313) 764-8464  
Course Number: 436  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Number of Times Taught: 8  
Average Enrollment: 15

*Energy Conservation Seminar I*

Instructor: Overdick, Willard A.  
(313) 764-9453  
Course Number: 555  
Department: Architecture and Urban Planning  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Number of Times Taught: 4  
Average Enrollment: 15

*Instrum. for Sol. Ener. Measurements*

Instructor: Fortman, Donald J.  
(313) 763-4380  
Course Number: 466  
Department: Atmospheric and Oceanic Science  
Credits: 3  
Student Level: Junior or Senior

# Michigan

Duration: 15 Weeks, 5.0 hrs per week  
 Contact Hours: 75  
 Classroom: 45  
 Laboratory: 30  
 Number of Times Taught: 1  
 Average Enrollment: 10

## Solar Energy Fundamentals

Instructor: Clark, John  
 (313) 763-1046  
 Course Number: 475  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 6  
 Average Enrollment: 10

## Solar Energy Systems Design

Instructor: Clark, John  
 (313) 763-1046  
 Course Number: 575  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 4  
 Average Enrollment: 8

\*\*\*\*\*

MICHIGAN- DEARBORN, U OF  
 DEARBORN, Michigan 48128  
 (313) 271-2300

(2326)

## SOLAR RELATED COURSES

### Alternate Energy Sources

Instructor: Friedman, Peter  
 Course Number: 295  
 Department: Natural Sciences  
 Credits: 3  
 Student Level: All levels  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conversion;  
 Energy Storage; Photovoltaics  
 Number of Times Taught: 1  
 Average Enrollment: 50

\*\*\*\*\*

MICHIGAN- FLINT, U OF  
 FLINT, Michigan 48503  
 (313) 762-3000

(2327)

## SOLAR RELATED COURSES

### Energy Planning and Technology

Instructor: Rycus, M.  
 (313) 762-3359  
 Course Number: ENV 250

# Solar Energy Research Institute

Department: Environmental Studies  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Biomass Conversion; Energy  
 Conservation; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy  
 Number of Times Taught: 1  
 Average Enrollment: 25

## Energy, Man and the Environment

Instructor: Rycus, M.  
 (313) 762-3355  
 Course Number: ENV 105  
 Department: Environmental Studies  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Biomass Conversion; Energy  
 Conservation; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Domestic Hot  
 Water  
 Number of Times Taught: 4  
 Average Enrollment: 30

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NORTHERN MICH UNIVERSITY  
 MARQUETTE, Michigan 49855  
 (906) 227-1000

(2301)

## SOLAR RELATED COURSES

### Energy and Chemistry

Instructor: Allenstein, R.V.  
 (906) 226-3204  
 Course Number: CH 105  
 Department: Chemistry  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 5.0 hrs per week  
 Contact Hours: 80  
 Classroom: 48  
 Laboratory: 32  
 Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer  
 Number of Times Taught: 5  
 Average Enrollment: 35

\*\*\*\*\*

**OAKLAND UNIVERSITY**ROCHESTER, Michigan 48063  
(313) 377-2100

(2307)

**SOLAR RELATED COURSES***Energy*

Instructor: Tepley, N.  
(313) 377-3410  
Course Number: PHY 115  
Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 56

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology;  
Photovoltaics; Elec'l Generation,  
Central; Wind Power, Central Systems

*Energy and the Environment*

Instructor: Miller, Steven R.  
(313) 377-2334  
Course Number: ENV 312  
Department: Environmental Science  
Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion

Number of Times Taught: 2  
Average Enrollment: 39

*Problems in Energy and Environment*

Instructor: Miller, Steven R.  
(313) 377-2334  
Course Number: ENV 353  
Department: Environmental Science  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 50

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Heat and Energy  
Transfer; Intro. to Solar Energy; Solar  
Economics; Elec'l Generation, Central;  
Elec'l Generation, Small Scale

Number of Times Taught: 2  
Average Enrollment: 6

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**SAGINAW VLY STATE COLLEGE**UNIVERSITY CENTER, Michigan 48710  
(517) 793-9800

(2314)

**SOLAR RELATED COURSES***Solar Energy Systems*

Instructor: Ford, Frank E.  
Course Number: 431  
Department: Engineering &  
Technology  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating

Number of Times Taught: 1  
Average Enrollment: 24

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**HAYNE STATE UNIVERSITY**DETROIT, Michigan 48202  
(313) 577-2424

(2329)

**SOLAR RELATED COURSES***Energy in the Environment*

Instructor: Thomas, R.L.  
(313) 577-2970  
Course Number: 0106  
Department: Physics and Astronomy  
Credits: 3  
Student Level: All levels  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Intro. to Solar  
Energy

Number of Times Taught: 4  
Average Enrollment: 16

*Energy, Technology and Society*

Course Number: GST 2202  
Department: Lifelong Learning-Univ.  
Studies/Weekend Coll.  
Prog.

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 11

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation

Number of Times Taught: 5  
Average Enrollment: 600



**Program in Environ. Studies 502**

Instructor: Saperstein, A.M.  
 Course Number: ENV 502  
 Department: I.E., Physics, Pol.  
 Sci.  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 30 Weeks, 4.0 hrs per week  
 Contact Hours: 120  
 Number of Times Taught: 3  
 Average Enrollment: 10

**Program in Environ. Studies 503**

Instructor: Saperstein, A.M.  
 Course Number: ENV 503  
 Department: I.E., Physics, Pol.  
 Sci.  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 30 Weeks, 4.0 hrs per week  
 Contact Hours: 120  
 Number of Times Taught: 3  
 Average Enrollment: 10

**Program in Environmental Studies**

Instructor: Saperstein, A.M.  
 Course Number: ENV 501  
 Department: I.E., Physics, Pol.  
 Sci.  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 30 Weeks, 4.0 hrs per week  
 Contact Hours: 120  
 Number of Times Taught: 3  
 Average Enrollment: 10

**Residential Solar Energy**

Instructor: Bowen, David R.  
 (313) 577-4631  
 Course Number: GST 2203  
 Department: Lifelong Learning,  
 Univ. Studies/Weekend  
 Coll. Prog  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 1 Weeks, 34.0 hrs per week  
 Contact Hours: 34  
 Classroom: 34  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Storage; Intro.  
 to Solar Energy; Passive Solar  
 Technology; Solar Energy Policy  
 Development; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Systems Design;  
 Solar Systems Installation; Domestic  
 Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 600

**Senior Seminar**

Instructor: Majeske, Penelope K.  
 (313) 577-4644  
 Course Number: 4986  
 Department: Upper Division  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 4.0 hrs per week  
 Contact Hours: 44  
 Number of Times Taught: 3

Average Enrollment: 7

**Senior Seminar 4986**

Instructor: Majeske, Penelope K.  
 (313) 577-4644  
 Course Number: 4986  
 Department: Upper Division  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 4.0 hrs per week  
 Contact Hours: 44  
 Number of Times Taught: 3  
 Average Enrollment: 7

**Solar Energy Heat Transfer Processes**

Instructor: Singh, Trilochan  
 (313) 577-3845  
 Course Number: ME0527  
 Department: Mechanical Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Number of Times Taught: 6  
 Average Enrollment: 15

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WESTERN MICH UNIVERSITY  
 KALAMAZOO, Michigan 49008  
 (616) 383-1600

(2330)

**SOLAR RELATED COURSES****Solar Energy II**

Instructor: Schubert, R.C.  
 (616) 383-4021  
 Course Number: 495  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 3 Weeks, 15.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Heat and Energy  
 Transfer; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Testing and  
 Evaluation; Domestic Hot Water;  
 Swimming Pool Heating; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 15

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Community/Junior Colleges

**CHAS S MOTT CMTY COLLEGE** (2261)  
 FLINT, Michigan 48503  
 (313) 762-0200

## PROGRAMS AND CURRICULA

*Energy Technology*

Degree: AD, Applied Science, Alternate  
 Energy  
 Contact: Laine, Douglas E.  
 (313) 762-0278

Students Taking or Completing Offering:  
 Trade Specialty

## SOLAR RELATED COURSES

*Solar Heating and Cooling*

Instructor: Laine, Douglas E.  
 (616) 762-0278  
 Course Number: PHYSCI-113  
 Department: Science and Mathematics  
 Program or Curriculum: Energy Technology  
 Credits: 2  
 Student Level: All levels  
 Duration: 16 Weeks, 2.0 hrs per week  
 Contact Hours: 32  
 Classroom: 32

Topics Covered Extensively: Energy  
 Conservation; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Economics; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Solar Systems Testing and  
 Evaluation

Number of Times Taught: 2  
 Average Enrollment: 20

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**DELTA COLLEGE** (2251)  
 UNIVERSITY CENTER, Michigan 48710  
 (517) 686-0400

## SOLAR RELATED COURSES

*Solar Energy Workshop*

Instructor: Most, C./ Schuitman,  
 J./ Whittaker, M.  
 (517) 662-9267  
 Course Number: 78293  
 Department: Science  
 Credits: 1  
 Student Level: All levels  
 Duration: 5 Weeks, 3.0 hrs per week  
 Contact Hours: 15  
 Classroom: 9  
 Laboratory: 6

Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Solar System Components; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Domestic Hot Water; Space  
 Heating

Number of Times Taught: 5

Average Enrollment: 20

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**GLEN OAKS CMTY COLLEGE** (2263)  
 CENTREVILLE, Michigan 49032  
 (616) 467-9945

## SOLAR RELATED COURSES

*Alternative Energy*

Instructor: Moss, Wayne  
 (616) 467-9945  
 Course Number: VAE-110  
 Department: Vocational  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 2

*Solar Energy*

Instructor: Moss, Wayne  
 (616) 467-9945  
 Course Number: VAE 112  
 Department: Vocational  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 1  
 Average Enrollment: 30

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**GRAND RAPIDS JR COLLEGE** (2267)  
 GRAND RAPIDS, Michigan 49502  
 (616) 456-4895

## PROGRAMS AND CURRICULA

*Arch. Draft.*

Degree: AD, Arch. Draft.  
 Contact: Boyer, Don  
 Students Taking or Completing Offering:  
 Architect

*Heat., Vent., A/C*

Degree: AD, Heat., Vent., A, C  
 Contact: Boyer, Don

## SOLAR RELATED COURSES

*Sol. Sys: - Collector Des. and Cons.*

Instructor: Larson, L.  
 (616) 456-4860  
 Course Number: TE 245  
 Department: Technology  
 Program or Curriculum: Arch. Draft. and Heat.,  
 Vent., A/C  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 16  
 Laboratory: 32

Topics Covered Extensively: Materials Research; Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

#### *Solar Dwelling Design Concepts*

Instructor: Larson, L.  
(616) 456-4860  
Course Number: TE 243  
Department: Technology  
Program or Curriculum: Arch. Draft. and Heat., Vent., A/ C  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32  
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling

#### *Solar Theory & Design*

Instructor: Larson, L.  
(616) 456-4860  
Course Number: TE 142  
Department: Technology  
Program or Curriculum: Arch. Draft. and Heat., Vent., A/ C  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 28  
Laboratory: 4  
Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy; Domestic Hot Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 15

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#### JACKSON COMMUNITY COLLEGE

(2274)

JACKSON, Michigan 49201  
(517) 787-0300

#### SOLAR RELATED COURSES

##### *Solar Heating and Cooling*

Instructor: Ed., Supplemental-Dean  
Occup. Ed.  
(517) 787-0800  
Course Number: AIT-010  
Department: Occupational  
Credits: 1  
Student Level: All levels  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Classroom: 16  
Number of Times Taught: 2  
Average Enrollment: 45

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#### LANSGING COMMUNITY COLLEGE

(2278)

LANSGING, Michigan 48901  
(517) 373-7400

#### SOLAR RELATED COURSES

##### *\*Alternate Sources of Energy*

Course Number: ATG150  
Department: Eng'r Tech.  
Topics Covered Extensively: Alternate Energy Sources

##### *\*Building a Solar Furnace*

Course Number: ATG151  
Department: Eng'r Tech.  
Topics Covered Extensively: Space Heating

##### *\*Building a Solar Water Heater*

Course Number: ATG152  
Department: Eng'r Tech.  
Topics Covered Extensively: Domestic Hot Water

##### *\*Passive Solar Design*

Course Number: AT211  
Department: Eng'r Tech.  
Topics Covered Extensively: Passive Solar Technology

##### *\*Passive Solar II*

Course Number: AT215  
Department: Eng'r Tech.  
Topics Covered Extensively: Passive Solar Technology

##### *\*Principles of Solar Ener. Collection*

Course Number: AT201  
Department: Eng'r Technology  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design

##### *\*Res. Solar Heating System Design*

Course Number: AT203  
Department: Eng'r Tech.  
Topics Covered Extensively: Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

##### *\*Solar Housing*

Course Number: AT200  
Department: Eng'r Tech.

##### *\*Solar Site Seminar*

Course Number: AT208  
Department: Eng'r Tech.

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**MACOMB CO CC- SOUTH CAMPUS** (8906)  
 WARREN, Michigan 48093  
 (313) 779-7000

#### SOLAR RELATED COURSES

##### *Solar Heating and Energy Conservation*

Instructor: Cooper, W. B.  
 (313) 779-7465  
 Course Number: CCT 280  
 Department: Mechanical Tech.  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 8.0 hrs per week  
 Contact Hours: 128  
 Classroom: 64  
 Laboratory: 64  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating  
 Number of Times Taught: 4

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**MID MICHIGAN CMTY COLLEGE** (6768)  
 HARRISON, Michigan 48625  
 (517) 386-7792

#### SOLAR RELATED COURSES

##### *Alternate Energy Sources*

Instructor: Derscheid, Larry  
 (517) 386-7792  
 Course Number: 151  
 Department: Physical Science  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Alternate Energy Sources  
 Number of Times Taught: 3  
 Average Enrollment: 10

##### *Heating Systems*

Instructor: Hohman, John  
 (517) 386-7792  
 Course Number: HRA201  
 Department: Technical  
 Credits: 6  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 8.0 hrs per week  
 Contact Hours: 128  
 Classroom: 64  
 Laboratory: 64  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar

Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water  
 Number of Times Taught: 4  
 Average Enrollment: 20

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**SCHOOLCRAFT COLLEGE** (2315)  
 LIVONIA, Michigan 48152  
 (313) 591-6400

#### SOLAR RELATED COURSES

##### *Energy, Man and the Future*

Instructor: Lesko  
 (313) 591-6400  
 Course Number: 101  
 Department: Physics  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 5.0 hrs per week  
 Contact Hours: 80  
 Classroom: 48  
 Laboratory: 32  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Economics  
 Number of Times Taught: 8  
 Average Enrollment: 20

##### *Here Comes the Sun*

Department: Bursar/Solar Energy  
 Student Level: All levels  
 Duration: 1 Weeks, 18.0 hrs per week  
 Contact Hours: 18  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

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**SNT CLAIR CO CMTY COLLEGE** (2310)  
 PORT HURON, Michigan 48060  
 (313) 984-3881

#### SOLAR RELATED COURSES

##### *Alternate Energy, Intro. To Energy*

Instructor: Zochowski, Phil  
 (313) 984-3881  
 Course Number: 100  
 Department: Industrial Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 32  
 Laboratory: 32

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Intro. to Solar  
Energy; Solar Home Construction; Wind  
Power; Small Systems  
Number of Times Taught: 1  
Average Enrollment: 15

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SOUTHWESTERN MICH. COLLEGE  
DOWAGIAC, Michigan 49047  
(616) 782-5113

(2317)

#### SOLAR RELATED COURSES

##### *Solar Energy*

Instructor: Haidler, William  
(616) 782-5113  
Course Number: 181  
Department: Continuing Education  
Credits: 2  
Student Level: All levels  
Duration: 6 Weeks, 6.0 hrs per week  
Contact Hours: 36  
Classroom: 36

Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Design  
Number of Times Taught: 6  
Average Enrollment: 20

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#### Other Educational Institutions

SUN STRUCTURES  
201 E. Liberty St.  
Ann Arbor, Michigan

(90430)

#### SOLAR RELATED COURSES

\*Alt. Energy Workshops

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**Colleges/Universities**

**AUGSBURG COLLEGE** (2334)  
MINNEAPOLIS, Minnesota 55454  
(612) 332-5181

**SOLAR RELATED COURSES****Energy Options for the Future**

Instructor: Paulson, Kermit E.  
(612) 332-5181  
Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy

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**BEMIDJI STATE U** (2336)  
BEMIDJI, Minnesota 56601  
(218) 755-2000

**SOLAR RELATED COURSES****Alternate Energy Sources**

Instructor: Strom, Irving  
(218) 755-2760  
Course Number: 370  
Department: Industrial Technology  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation  
Number of Times Taught: 1  
Average Enrollment: 20

**Fireplace Construction**

Instructor: Anderson, Robert  
(218) 755-2950  
Course Number: 496  
Department: Ind. Tech.  
Credits: 1  
Student Level: All levels  
Duration: 1 Weeks, 20.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Heat  
and Energy Transfer  
Number of Times Taught: 5  
Average Enrollment: 40

**Heat Pump Tech.**

Instructor: Larson, Irving  
(218) 755-2950  
Course Number: 4596  
Department: Ind. Tech.  
Credits: 1  
Student Level: All levels  
Duration: 1 Weeks, 10.0 hrs per week  
Contact Hours: 10  
Classroom: 10

Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer

**Solar Heating (Energy)**

Instructor: Larson, Irving  
(218) 755-2950  
Course Number: 4596  
Department: Ind. Tech.  
Credits: 1  
Student Level: All levels  
Duration: 1 Weeks, 10.0 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Plumbing  
Techniques; Solar System Components;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 3  
Average Enrollment: 25

**Wind Generation (Energy)**

Instructor: Larson, Irving  
(218) 755-2950  
Department: Ind. Tech.  
Credits: 1  
Student Level: All levels  
Duration: 10 Weeks, 1.0 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Energy  
Storage; Wind Power, Central Systems;  
Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 20

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**GUSTAVUS ADOLPHUS COLLEGE** (2353)  
SAINT PETER, Minnesota 56082  
(507) 931-4300

**SOLAR RELATED COURSES****Alternate Sources of Energy**

Instructor: Bradley, Wendell  
(507) 931-4300  
Course Number: 1048  
Department: Physics  
Credits: 1  
Student Level: All levels  
Duration: 7 Weeks, 4.0 hrs per week  
Contact Hours: 28  
Classroom: 10  
Laboratory: 18  
Topics Covered Extensively: Alternate  
Energy Sources  
Number of Times Taught: 5  
Average Enrollment: 12

**Energy**

**Instructor:** Bradley, Wendell  
(507) 931-4300  
**Course Number:** 104A  
**Department:** Physics  
**Credits:** 1  
**Student Level:** All levels  
**Duration:** 7 Weeks, 4.0 hrs per week  
**Contact Hours:** 28  
**Classroom:** 28  
**Topics Covered Extensively:** Alternate Energy Sources  
**Number of Times Taught:** 5  
**Average Enrollment:** 12

**Indepen. Stud.-Sol. Ener. Res. Projects**

**Instructor:** Miller, Richard  
(507) 931-4300  
**Course Number:** 191-491  
**Department:** Physics  
**Credits:** 1  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 5.0 hrs per week  
**Contact Hours:** 70  
**Laboratory:** 70  
**Topics Covered Extensively:** Alternate Energy Sources  
**Number of Times Taught:** 3  
**Average Enrollment:** 3

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**MANKATO STATE UNIVERSITY** (2360)  
MANKATO, Minnesota 56001  
(507) 389-1111

**SOLAR RELATED COURSES****Energy and Management**

**Instructor:** Mordue, Dale  
(507) 389-6536  
**Course Number:** 101  
**Department:** Physics and Electronics Engineering Technology  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 10 Weeks, 4.0 hrs per week  
**Contact Hours:** 40  
**Classroom:** 30  
**Laboratory:** 10  
**Topics Covered Extensively:** Energy Conservation; Energy Conversion; Energy Storage; Solar Systems Design  
**Number of Times Taught:** 3  
**Average Enrollment:** 6

**Residential Solar Energy**

**Instructor:** Johnson, Iver H.  
(507) 389-6621  
**Course Number:** 491  
**Department:** Industrial and Technical Studies  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 12 Weeks, 3.0 hrs per week  
**Contact Hours:** 36  
**Classroom:** 36  
**Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy;

Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
**Number of Times Taught:** 1  
**Average Enrollment:** 35

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**MINN MNPLS SHT PAUL, U OF** (2369)  
**MINNEAPOLIS, Minnesota 55455**  
(612) 373-2851

**SOLAR RELATED COURSES****Solar Energy Utilization**

**Instructor:** Liu, Benjamin Y.H.  
**Course Number:** ME 5712  
**Department:** Mechanical Engineering  
**Credits:** 4  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 4.0 hrs per week  
**Contact Hours:** 40  
**Classroom:** 40  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling  
**Number of Times Taught:** 4  
**Average Enrollment:** 45

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**MINNESOTA DULUTH, U OF** (2388)  
**DULUTH, Minnesota 55812**  
(218) 726-8000

**SOLAR RELATED COURSES****Energy Resources: Sources, Use and Conservation**

**Instructor:** Oakland, Lewis J.  
(218) 726-7210  
**Course Number:** PHYS 1020  
**Department:** Letters & Science-Physics  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 10 Weeks, 4.0 hrs per week  
**Contact Hours:** 40  
**Classroom:** 30  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy  
**Number of Times Taught:** 1  
**Average Enrollment:** 35

**Environmental Studies**

**Instructor:** Sydor, Michael  
(218) 726-7205  
**Course Number:** PHY 3050  
**Department:** Letters & Science/Physics

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Heat and Energy Transfer  
 Number of Times Taught: 1  
 Average Enrollment: 6

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MOORHEAD STATE UNIVERSITY (2367)  
 MOORHEAD, Minnesota 56560  
 (218) 236-2041

## SOLAR RELATED COURSES

*Solar Energy*  
 Instructor: Mathiason, Dennis  
 (218) 236-2136  
 Course Number: 403  
 Department: Chemistry  
 Credits: 4  
 Student Level: All levels  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Solar System Components; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 40

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SAINT CLOUD ST UNIVERSITY (2377)  
 SAINT CLOUD, Minnesota 56301  
 (612) 255-0121

## SOLAR RELATED COURSES

*Solar Energy*  
 Instructor: Trummel, Donald  
 (612) 255-2011  
 Course Number: 495/595  
 Department: Physics  
 Credits: 2  
 Student Level: All levels  
 Duration: 8 Weeks, 3.0 hrs per week  
 Contact Hours: 24  
 Classroom: 19  
 Laboratory: 5  
 Number of Times Taught: 2  
 Average Enrollment: 20

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SAINT OLAF COLLEGE (2382)  
 NORTHFIELD, Minnesota 55057  
 (507) 663-2222

## SOLAR RELATED COURSES

\*Physic Dept. Courses  
 Department: Physics

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SAINT TERESA, COLLEGE OF (2344)  
 WINONA, Minnesota 55987  
 (507) 452-9302

## PROGRAMS AND CURRICULA

*Solar Energy Dynamics*  
 Degree: NO  
 Contact: Homer, Oscar  
 (507) 454-2930  
 Students Taking or Completing Offering:  
 Educator

## SOLAR RELATED COURSES

*Solar Energy Dynamics*  
 Instructor: Homer, Oscar  
 Department: Biology-Chemistry  
 Program or Curriculum: Solar Energy Dynamics  
 Student Level: College Graduate  
 Duration: 3 Weeks, 40.0 hrs per week  
 Contact Hours: 120  
 Classroom: 60  
 Laboratory: 60

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WM MITCHELL COLLEGE LAW (2391)  
 SAINT PAUL, Minnesota 55105  
 (612) 227-9171

## SOLAR RELATED COURSES

*Energy Law & Policy*  
 Instructor: Prince, J. D.  
 (612) 227-9171  
 Course Number: 393  
 Department: College of Law  
 Credits: 2  
 Student Level: College Graduate  
 Duration: 16 Weeks, 2.0 hrs per week  
 Contact Hours: 32  
 Classroom: 32  
 Topics Covered Extensively: Solar Energy Policy Development; So  
 Law/legislation

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## Community/Junior Colleges

LAKESIDE CITY COLLEGE (6774)  
WHITE BEAR LAKE, Minnesota 55110  
(612) 770-1331

## PROGRAMS AND CURRICULA

*Energy Engineering Technology*

Degree: AD, Applied Science-Energy  
Contact: Wischmann, Robert  
(612) 770-1331

## SOLAR RELATED COURSES

*Energy Concepts*

Instructor: Wischmann, Robert  
(612) 770-1331  
Course Number: NS 138  
Department: Natural Science  
Program or Curriculum: Energy Engineering Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology  
Number of Times Taught: 9  
Average Enrollment: 30

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ROCHESTER CITY COLLEGE (2373)  
ROCHESTER, Minnesota 55901  
(507) 285-7210

## SOLAR RELATED COURSES

*Adv. Sol. Energy for the Homeowner*

Department: Civil Engr. Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36

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**Colleges/Universities**

**DELTA STATE UNIVERSITY** (2403)  
 CLEVELAND, Mississippi 38732  
 (601) 846-6664

**PROGRAMS AND CURRICULA****Energy Program for High School****Teachers**

Contact: Myers, Richard S.  
 (601) 843-9741

Students Taking or Completing Offering:  
 Educator

**SOLAR RELATED COURSES****Special Topics in Chemistry-Energy**

Instructor: Myers, Richard S.  
 (601) 843-9741

Course Number: CHE 392  
 Department: Physical Sciences

Program or Curriculum: Energy Program for High School Teachers

Credits: 3  
 Student Level: College Graduate  
 Duration: 2 Weeks, 28.0 hrs per week  
 Contact Hours: 56  
 Classroom: 56

Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy  
 Number of Times Taught: 1  
 Average Enrollment: 24

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**MISSISSIPPI ST UNIVERSITY** (2423)  
 MISSISSIPPI STATE, Mississippi 39762  
 (601) 325-3221

**PROGRAMS AND CURRICULA****Mechanical Engineering**

Degree: PhD, MS, BS, Mechanical Engineering

Contact: Carley, C. T.  
 (601) 325-4915

**SOLAR RELATED COURSES****Solar Energy Thermal Processes**

Instructor: Forbes, Richard  
 (601) 325-4915

Course Number: ME 4313  
 Department: Mechanical Engineering

Program or Curriculum: Mechanical Engineering

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 40  
 Laboratory: 2

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar

Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 30

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**SOUTHERN MISSISSIPPI, U OF** (2441)  
 HATTIESBURG, Mississippi 39401  
 (601) 266-7101

**SOLAR RELATED COURSES****Solar Heating and Cooling**

Instructor: Brent, Charles R.  
 (601) 266-7212

Course Number: MET 444/544  
 Department: Sci. and Tech./Indus. Technology

Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45

Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Number of Times Taught: 4  
 Average Enrollment: 18

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**Community/Junior Colleges**

**HINDS JUNIOR COLLEGE** (2407)  
 RAYMOND, Mississippi 39154  
 (601) 857-5261

**SOLAR RELATED COURSES****Solar Energy**

Instructor: Durham, J. David  
 (615) 857-5261

Course Number: CEU 0073  
 Department: Physical Science

Student Level: All levels  
 Duration: 6 Weeks, 2.0 hrs per week  
 Contact Hours: 12  
 Classroom: 12

Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 1  
 Average Enrollment: 25



## Colleges/Universities

**CENTRAL METHODIST COLLEGE** (2453)  
**FAYETTE, Missouri 65248**  
 (816) 248-3391

## SOLAR RELATED COURSES

*Research Topics in Solar Energy*

Instructor: Peery, Larry J.  
 (816) 248-3391  
 Course Number: I43  
 Department: Physics-Astronomy  
 Credits: 3  
 Student Level: All levels  
 Duration: 3 Weeks, 20.0 hrs per week  
 Contact Hours: 60  
 Classroom: 15  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water  
 Number of Times Taught: 1  
 Average Enrollment: 12

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**CENTRAL MO ST UNIVERSITY** (2454)  
**WARRENSBURG, Missouri 64093**  
 (816) 429-4111

## SOLAR RELATED COURSES

*Energy Conservation*

Instructor: Ulrich, Robert  
 (816) 429-4626  
 Course Number: SAFE 4040  
 Department: Public Service  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 12 Weeks, 5.0 hrs per week  
 Contact Hours: 60  
 Classroom: 60  
 Number of Times Taught: 10  
 Average Enrollment: 14

*Solar & Other Energy Alternatives*

Instructor: Norris, Raymond  
 (816) 429-4941  
 Course Number: E/E 4000  
 Department: Electricity & Electronics  
 Credits: 2  
 Student Level: Junior or Senior  
 Duration: 3 Weeks, 12.0 hrs per week  
 Contact Hours: 36  
 Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Space Heating; Space Cooling

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**MISSOURI STATE ST COLLEGE** (2488)  
**JOPLIN, Missouri 64801**  
 (417) 624-8100

## SOLAR RELATED COURSES

*Seminar-Solar Energy Design*

Instructor: Morgan, Ronald  
 (417) 624-8100  
 Course Number: 498  
 Department: Drafting & Design  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 5.0 hrs per week  
 Contact Hours: 80  
 Classroom: 16  
 Laboratory: 64  
 Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 2  
 Average Enrollment: 20

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**MISSOURI- COLUMBIA, U OF** (2516)  
**COLUMBIA, Missouri 65201**  
 (314) 882-2121

## SOLAR RELATED COURSES

*Ener. Sys., Res-Risks, Benefits*

Instructor: Meyer, Walter/ Bull, Stanley R.  
 (314) 882-3550  
 Course Number: N5301  
 Department: Energy Systems and Resources  
 Credits: 2  
 Student Level: College Graduate  
 Duration: 1 Weeks, 40.0 hrs per week  
 Contact Hours: 40  
 Classroom: 30  
 Laboratory: 10  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy  
 Number of Times Taught: 6  
 Average Enrollment: 39

*Engin. Eval-Ener. Sys., Resources*

Instructor: Meyer, Walter  
 (314) 882-3550  
 Course Number: EEMAENE315  
 Department: Energy Systems and Resources Program  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy

Number of Times Taught: 3  
Average Enrollment: 26

**Heat Ener. Crisis-Comp. Risks, Benefits**

Instructor: Mayer, Walter/ Bull, Stanley R.  
(314) 882-3550

Course Number: NE301

Department: Energy Systems and Resources

Credits: 4

Student Level: College Graduate

Duration: 3 Weeks, 40.0 hrs per week

Contact Hours: 120

Classroom: 90

Laboratory: 30

Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy

Number of Times Taught: 1

Average Enrollment: 37

**Principles of Direct Energy Conversion**

Instructor: Warden, Richard C.  
(314) 882-8345

Course Number: MAE359

Department: Mechanical & Aerospace Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Energy Conversion; Photovoltaics

Number of Times Taught: 2

Average Enrollment: 20

**Solar Energy Utilization**

Instructor: Moore, Gordon L.  
(314) 882-2785

Course Number: MAE339

Department: Mechanical & aerospace Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 1

Average Enrollment: 22

**Teachers Energy Symposium**

Instructor: Mayer, W./ Bull, S.R.  
(314) 882-3550

Course Number: NE301

Department: Energy Systems and Resources

Credits: 1

Student Level: College Graduate

Duration: 1 Weeks, 20.0 hrs per week

Contact Hours: 20

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

Number of Times Taught: 3  
Average Enrollment: 70

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MISSOURI- KANSAS CITY, U OF  
KANSAS CITY, Missouri 64110  
(816) 276-1000

(2518)

**SOLAR RELATED COURSES****Solar Energy Utilization**

Instructor: Stewart, Jr. W. E.  
(816) 276-1672

Course Number: 301

Department: Mechanical Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design

Number of Times Taught: 1

Average Enrollment: 25

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MISSOURI- ROLLA, U OF  
ROLLA, Missouri 65401  
(314) 341-4114

(2517)

**PROGRAMS AND CURRICULA****Solar Energy Conversion**

Degree: MS, Electrical Engineering

Contact: Boone, Jack L.  
(314) 341-4357

**SOLAR RELATED COURSES****Solar Energy Conversion**

Instructor: Boone, Jack L.  
(314) 341-4357

Course Number: EE335

Department: Elec. Engineering

Program or

Curriculum: Solar Energy Conversion

Credits: 3

Student Level: College Graduate

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design

Average Enrollment: 10

**Solar Energy Conversion-Lab**

Instructor: Boone, Jack L.  
(314) 341-4357

Course Number: EE 336

Department: Elec. Engr.  
 Program or Curriculum: Solar Energy Conversion  
 Credits: 1  
 Student Level: College Graduate  
 Duration: 15 Weeks, 1.0 hrs per week  
 Contact Hours: 15  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design  
 Average Enrollment: 10

**Solar Heating and Cooling**

Instructor: Arraly, Bassen P.  
 (314) 341-4671  
 Course Number: ME 365  
 Program or Curriculum: Solar Energy Conversion  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 1.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 20

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MISSOURI- SAINT LOUIS, U OF (2519)  
 SAINT LOUIS, Missouri 63121  
 (314) 453-0111

**SOLAR RELATED COURSES****\*Solar Heating and Cooling**

Department: Mech. Engr.  
 Student Level: College Graduate

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SOUTHEAST MO ST UNIVERSITY (2501)  
 CAPE GIRARDEAU, Missouri 63701  
 (314) 334-8211

**SOLAR RELATED COURSES:****Introduction to Solar Applications**

Instructor: Freeman, Robert W.  
 (314) 651-2172  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 32  
 Laboratory: 32  
 Topics Covered Extensively: Energy

Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating

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SOUTHWESTERN MO ST UNIVERSITY (25031)  
 SPRINGFIELD, Missouri 65802  
 (417) 836-5000

**PROGRAMS AND CURRICULA****Engineering Physics-Solar Emphasis**

Degree: BS.  
 Contact: Banks, L.E.  
 (417) 836-5131  
 Students Taking or Completing Offering: Solar Engineer

**SOLAR RELATED COURSES****Basics of Solar Energy**

Instructor: Banks, L.E.  
 (417) 836-5131  
 Course Number: 131  
 Department: Physics  
 Program or Curriculum: Engineering Physics-Solar Emphasis  
 Credits: 1  
 Student Level: All levels  
 Duration: 8 Weeks, 2.0 hrs per week  
 Contact Hours: 16  
 Classroom: 16  
 Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 40

**Solar Energy Laboratory**

Instructor: Banks, L.E.  
 (417) 836-5131  
 Course Number: 141  
 Department: Physics  
 Program or Curriculum: Engineering Physics-Solar Emphasis  
 Credits: 1  
 Student Level: All levels  
 Duration: 16 Weeks, 2.0 hrs per week  
 Contact Hours: 32  
 Laboratory: 32  
 Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation  
 Number of Times Taught: 1

**Solar System Analysis**

Instructor: Banks, L.E.  
(417) 836-5131  
Course Number: 265  
Department: Physics  
Program or Curriculum: Engineering Physics - Solar Emphasis  
Credits: 2  
Student Level: Junior or Senior  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 32  
Topics Covered Extensively: Solar Economics; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat, Industrial

**Solar System Design**

Instructor: Banks, L.E.  
(417) 836-5131  
Course Number: 265  
Department: Physics  
Program or Curriculum: Engineering Physics-Solar Emphasis  
Credits: 1  
Student Level: Junior or Senior  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Laboratory: 32  
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design  
Average Enrollment: 1

**Solar Thermal Analysis**

Instructor: Banks, L.E.  
(417) 836-5131  
Course Number: 265  
Department: Physics  
Program or Curriculum: Engineering Physics-Solar Emphasis  
Credits: 2  
Student Level: Junior or Senior  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 32  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 10

**Wind Energy**

Instructor: Northrip, J.W.  
(417) 836-5405  
Course Number: 131  
Department: Physics  
Program or Curriculum: Engineering Physics-Solar Emphasis  
Credits: 1  
Student Level: All levels  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Classroom: 16

Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 1  
Average Enrollment: 40

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**WASHINGTON UNIVERSITY**

(2520)

SAINT LOUIS, Missouri 63130  
(314) 889-5000

**SOLAR RELATED COURSES****Energy Effective Building Design**

Instructor: Associates, W. Tao and  
(314) 644-1400  
Course Number: 546  
Department: Architecture  
Credits: 2  
Student Level: College Graduate  
Duration: 14 Weeks, 2.0 hrs per week  
Contact Hours: 28  
Classroom: 28  
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics  
Average Enrollment: 14

**Solar Energy Technology and Policy**

Instructor: Icerman, Larry  
(314) 889-5482  
Course Number: THA 143  
Department: Technology and Human Affairs  
Credits: 2  
Student Level: All levels  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 70

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**WEBSTER COLLEGE**

(2521)

SAINT LOUIS, Missouri 63119  
(314) 968-0500

**SOLAR RELATED COURSES****Energy Appropriate to the Task**

Instructor: McConnell, Bill  
(314) 968-0500  
Department: Science  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48

Topics Covered Extensively: Energy  
 Conservation; Passive Solar Technology  
 Number of Times Taught: 2  
 Average Enrollment: 10

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### Community/Junior Colleges

**CROWDER COLLEGE** (2459)  
 NEOSHO, Missouri 64850  
 (417) 451-3223

### SOLAR RELATED COURSES

#### Basic Solar Design

Instructor: Boyt, Art  
 (417) 451-5365  
 Department: Science  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48

Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Maintenance;  
 Domestic Hot Water; Elec'l Generation;  
 Small Scale; Space Heating; Wind Power;  
 Small Systems

Number of Times Taught: 4  
 Average Enrollment: 23

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**SAINT LOUIS CC- MERAMEC** (2472)  
 KIRKWOOD, Missouri 63122  
 (314) 966-7500

### SOLAR RELATED COURSES

#### Fund. of Solar Ener. and Ener. Cons.

Instructor: Strutman, Warren  
 (314) 966-7747  
 Course Number: 12.906  
 Department: Ener. and Tech.-Cont.  
 EO.  
 Student Level: High School Graduate  
 Duration: 6 Weeks, 2.0 hrs per week  
 Contact Hours: 16

Topics Covered Extensively: Energy  
 Conservation; Energy Storage; Heat and  
 Energy Transfer; Intro. to Solar  
 Energy; Plumbing Techniques; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Domestic Hot Water;  
 Space Heating; Space Cooling



## Colleges/Universities

**MONTANA C MINRL SCI- TECHN** (2531)  
**BUTTE, Montana 59701**  
 (406) 792-8321

## SOLAR RELATED COURSES

*Heat Transfer*

Instructor: Alexander, Richard  
 (406) 792-8321  
 Course Number: ES 526  
 Department: Engineering Science  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Heat and Energy Transfer

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**MONTANA STATE UNIVERSITY** (2532)  
**BOZEMAN, Montana 59715**  
 (406) 994-4361

## SOLAR RELATED COURSES

*Ener. Train. Shop-Second. Sci. Instructs.*

Instructor: Mussulman, R. L.  
 (406) 994-2203  
 Course Number: 570  
 Department: Mechanical Engineering  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 2 Weeks, 20.0 hrs per week  
 Contact Hours: 40  
 Classroom: 30  
 Laboratory: 10  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 5

*Energy Course for Homebuilders*

Instructor: Martindale, W. R.  
 (406) 994-2203  
 Course Number: 570  
 Department: Mechanical Engineering  
 Student Level: All levels  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 20  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot

*Water: Space Heating*

Number of Times Taught: 2  
 Average Enrollment: 65

*Energy Efficient Bldg. for Contractors*

Instructor: Warrington, Robert  
 (406) 994-2203  
 Department: Continuing Education  
 Student Level: All levels  
 Number of Times Taught: 2

*Energy: Limits, Problems and Prospects*

Instructor: Kirkpatrick, Larey  
 (406) 994-3614  
 Course Number: PHY 252  
 Department: Letters  
 Science/Physics  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 12 Weeks, 3.0 hrs per week  
 Contact Hours: 36  
 Classroom: 36  
 Number of Times Taught: 5  
 Average Enrollment: 35

*Solar Energy Design*

Instructor: Warrington, Robert O.  
 (406) 994-2203  
 Course Number: ME 480  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 10

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**MONTANA, UNIVERSITY OF** (2536)  
**MISSOULA, Montana 59801**  
 (406) 243-0211

## SOLAR RELATED COURSES

*Alternative Energy & the Ecosphere*

Instructor: Sheridan, P.  
 (406) 243-2613  
 Course Number: 178-9  
 Department: Botany-Liberal Arts  
 Credits: 3  
 Student Level: All levels  
 Duration: 9 Weeks, 3.0 hrs per week  
 Contact Hours: 27  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Plumbing Techniques;

Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Wind Power; Central Systems; Wind Power; Small Systems

Number of Times Taught: 3  
Average Enrollment: 200

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WESTERN MONTANA COLLEGE (2537)  
DILLON, Montana 59725  
(406) 683-7251

#### SOLAR RELATED COURSES

##### Solar Energy

Instructor: Strepper, Joseph B.  
(406) 683-7102

Course Number: 2/3/491

Department: Science

Credits: 2

Student Level: All levels

Contact Hours: 30

Classroom: 30

Laboratory: 10

Number of Times Taught: 1

Average Enrollment: 22

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#### Community/Junior Colleges

FLATHEAD VLY CMTY COLLEGE (6777)  
KALISPELL, Montana 59901  
(406) 755-5222

#### SOLAR RELATED COURSES

##### Alternative Energy & Conservation

Instructor: Blood, Lex  
(406) 755-5222

Course Number: 176

Department: c

Credits: 3

Student Level: Freshman or Sophomore

Duration: 11 Weeks, 3.0 hrs per week

Contact Hours: 33

Classroom: 19

Laboratory: 14

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation;

Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation; Small Scale; Process Heat, Agricultural; Space Heating; Wind Power; Central Systems; Wind Power; Small Systems

Number of Times Taught: 1  
Average Enrollment: 50

##### Energy For A Technological Society

Instructor: Blood, Lex  
(406) 755-5222

Course Number: 173

Department: Earth Sciences, Geology

Credits: 3

Student Level: Freshman or Sophomore

Duration: 11 Weeks, 3.0 hrs per week

Contact Hours: 33

Classroom: 19

Laboratory: 14

Topics Covered Extensively: Energy Conservation

Number of Times Taught: 2

Average Enrollment: 25

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#### Other Educational Institutions

ALTERNATIVE ENERGY RESOURCE ORG. (90270)  
435 Stapleton Bldg.  
Billings, Montana 59101

#### SOLAR RELATED COURSES

##### \*Solar Energy Workshop

Duration: 1 Week

Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

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## Colleges/Universities

**HASTINGS COLLEGE** (2548)  
HASTINGS, Nebraska 68901  
(402) 463-2402

## SOLAR RELATED COURSES

*Environmental Science 260*  
Course Number: 260  
Department: Physics  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 5.0 hrs per week  
Contact Hours: 70  
Classroom: 56  
Laboratory: 14  
Number of Times Taught: 3  
Average Enrollment: 24

*Environmental Science 460*  
Course Number: 460  
Department: Physics  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 5.0 hrs per week  
Contact Hours: 70  
Classroom: 56  
Laboratory: 14  
Number of Times Taught: 2  
Average Enrollment: 20

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**MIDLAND LUTHERAN COLLEGE** (2553)  
FREMONT, Nebraska 68025  
(402) 721-5480

## SOLAR RELATED COURSES

*Solar Home Heating*  
Instructor: Kruse, James  
(402) 721-5480  
Department: Continuing Ed.  
Student Level: All levels  
Duration: 7 Weeks, 3.0 hrs per week  
Contact Hours: 21  
Classroom: 21  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Systems Design; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 30

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**NEBRASKA LINCOLN U OF** (2565)  
LINCOLN, Nebraska 68588  
(402) 472-7211

## SOLAR RELATED COURSES

*Solar Energy Engineering*  
Instructor: Anderson, Edward E.  
(402) 472-1678  
Course Number: 414/814

Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat; Agricultural; Process Heat, Industrial; Space Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 20

## Summer Instit. and Curr. Dev.-Ener. Edu.

Instructor: McCurdy, Donald W.  
(402) 472-3155

Course Number: 9935  
Department: Teachers College-Sec. Educ.  
Credits: 3  
Student Level: College Graduate  
Duration: 3 Weeks, 30.0 hrs per week  
Contact Hours: 90  
Classroom: 30  
Laboratory: 60

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Home Construction; Elec'l Generation; Central; Space Heating

Number of Times Taught: 2  
Average Enrollment: 30

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## Community/Junior Colleges

**CENTRAL TECH CITY COLLEGE** (29007)  
GRAND ISLAND, Nebraska 68801  
(308) 384-5220

## SOLAR RELATED COURSES

*Solar Energy Fundamentals*  
Instructor: Krueger, Alan  
(402) 463-6811  
Course Number: 330.54  
Department: Ref/Heating  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Laboratory: 40  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design

Number of Times Taught: 46

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## METROPOLITAN TECHNICAL CC

OMAHA, Nebraska 68137  
(402) 457-5100

(12586)

## PROGRAMS AND CURRICULA

## Solar Technical Training Program

Degree: Solar Systems  
Contact: Kafka, James J.  
(402) 457-5100Students Taking or Completing Offering:  
Solar Technician

## SOLAR RELATED COURSES

## Survey of Solar Energy

Instructor: Reinmuth, Larry  
(402) 457-5700

Department: Continuing Education

Program on  
Curriculum: Solar Technician  
Training Program

Student Level: All levels

Duration: 8 Weeks, 2.5 hrs per week

Contact Hours: 20

Classroom: 12

Laboratory: 8

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology;  
Photovoltaics; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Space Cooling; Wind Power,  
Small Systems

Number of Times Taught: 3

Average Enrollment: 8

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## MID PLAINS CC- N PLATTE

NORTH PLATTE, Nebraska 69101  
(308) 532-8740

(12557)

## SOLAR RELATED COURSES

## Solar Heat Instruction - Familiarization

Department: Bldg & Construc. / Ref.  
& Air Cond.Topics Covered Extensively: Intro. to  
Solar Energy

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## SOUTHEAST CC MILFORD CAN

MILFORD, Nebraska 68405  
(402) 761-2131

(14723)

## SOLAR RELATED COURSES

## Heat and A/C System Theory

Instructor: Lundgren, Stan

Course Number: 5700227

Department: Construction

Occupations

Credits: 2

Student Level: All levels

Duration: 6 Weeks, 5.0 hrs per week

Contact Hours: 32

Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar Energy

## Residential A/C Theory I

Instructor: Lundgren, S.

Course Number: 4400441

Department: Construction

Occupations

Credits: 3

Student Level: All levels

Duration: 11 Weeks, 5.0 hrs per week

Contact Hours: 54

Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar Energy

## Solar Energy

Instructor: Roll, Dean

Course Number: 5700253

Department: Architectural

Technology

Credits: 2

Student Level: Freshman or Sophomore

Duration: 7 Weeks, 5.0 hrs per week

Contact Hours: 32

Classroom: 32

Topics Covered Extensively: Energy  
Storage; Plumbing Techniques; Solar  
System Components; Solar Economics;  
Solar Home Construction; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Space Heating

Number of Times Taught: 4

Average Enrollment: 15

## Solar Energy 4400653

Instructor: Roll, Dean

Course Number: 4400653

Department: Construction

Credits: 2

Student Level: All levels

Duration: 6 Weeks, 5.0 hrs per week

Contact Hours: 32

Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating; Space Cooling

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## Colleges/Universities

NEVADA LAS VEGAS, U OF  
LAS VEGAS, Nevada 89154  
(702) 739-3011

(2569)

## PROGRAMS AND CURRICULA

## Solar Systems

Contact: Tryon, John G.  
(702) 739-3701

Students Taking or Completing Offering:  
Contractor, Installer-Residential  
(Solar System), Installer-Commercial  
(Solar System), Solar Technician,  
Heating, Ventilation, and Air Cond.  
Worker

## SOLAR RELATED COURSES

## Solar Heating

Instructor: Tryon, John G.  
(702) 739-3701

Course Number: EGG475X  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Domestic Hot Water; Swimming Pool  
Heating; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

## Solar Systems-Domestic Hot Water

Instructor: Tryon, John G.  
(702) 739-3701  
Department: Cont. Ed., Nev. Sol.  
Ener. Assn.

Program or  
Curriculum: Solar Systems  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 16  
Classroom: 13

Topics Covered Extensively: Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Domestic Hot Water  
Number of Times Taught: 1  
Average Enrollment: 20

## Solar Systems-Economics

Instructor: Tryon, John G.  
(702) 739-3701  
Department: Cont. Ed., Nev. Sol.  
Ener. Assn.

Program or  
Curriculum: Solar Systems  
Student Level: All levels  
Duration: 2 Weeks, 10.0 hrs per week  
Contact Hours: 20  
Classroom: 20

Topics Covered Extensively: Solar  
Economics; Domestic Hot Water; Swimming  
Pool Heating; Space Heating

## Solar Systems-Heat. &amp; Cool. of Bldgs.

Instructor: Tryon, John G.  
(702) 739-3701  
Department: Cont. Ed., Nev. Sol.  
Ener. Assn.

Program or  
Curriculum: Solar Systems  
Student Level: All levels  
Duration: 7 Weeks, 4.0 hrs per week  
Contact Hours: 28  
Classroom: 28  
Topics Covered Extensively:  
Marketing/Market Analysis; Solar System  
Components; Solar Systems Design; Space  
Heating  
Number of Times Taught: 1  
Average Enrollment: 15

## Solar Systems-Swimming Pools

Instructor: Tryon, John G.  
(702) 739-3701  
Department: Cont. Ed., Nev. Sol.  
Ener. Assn.

Program or  
Curriculum: Solar Systems  
Student Level: All levels  
Duration: 2 Weeks, 4.5 hrs per week  
Contact Hours: 9  
Classroom: 6  
Topics Covered Extensively: Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Systems Design;  
Solar Systems Installation; Swimming  
Pool Heating  
Number of Times Taught: 1  
Average Enrollment: 20

## Topics in Physics: Solar Energy

Instructor: Dundon, J.M.  
(702) 739-3539  
Course Number: PHY 100B  
Department: Sci. Math., &  
Engineering/Physics  
Credits: 1  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Number of Times Taught: 2  
Average Enrollment: 40

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NEVADA RENO, U OF  
RENO, Nevada 89557  
(702) 784-1110

(2568)

## SOLAR RELATED COURSES

## Solar Energy 483-783

Instructor: Halleit, J.  
(702) 784-6792  
Course Number: 483-793  
Department: Arts and Sci.-Physics  
Credits: 3



Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer  
 Number of Times Taught: 2  
 Average Enrollment: 15

**Solar Engineering**

Instructor: McKee, R. B.  
 (702) 784-6880  
 Course Number: 374  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 5.0 hrs per week  
 Contact Hours: 75  
 Classroom: 30  
 Laboratory: 45  
 Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 10

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**Community/Junior Colleges**

CLARK CO CMTY COLLEGE  
 LAS VEGAS, Nevada 89030  
 (702) 643-6060

(10362)

**PROGRAMS AND CURRICULA****Solar Energy Technology**

Degree: AD, OT, Solar Energy Tech., Applied Science  
 Contact: Comarow, David  
 (702) 643-6060

Students Taking or Completing Offerings:  
 Solar Technician, Sheet Metal Worker, Electrician, Plumber

**SOLAR RELATED COURSES****Advanced Solar Energy Technology**

Instructor: Comarow, David  
 (702) 643-6060  
 Course Number: SOL 201  
 Department: Science  
 Program or Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Classroom: 45  
 Laboratory: 45  
 Topics Covered Extensively: Appropriate

Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

**Introduction to Solar Technology**

Instructor: Comarow, David  
 (702) 643-6060  
 Course Number: SOL 110  
 Department: Science  
 Program or Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 9.0 hrs per week  
 Contact Hours: 135  
 Classroom: 90  
 Laboratory: 45

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

**Passive Solar Heating and Cooling Technology**

Instructor: Comarow, David  
 (702) 643-6060  
 Course Number: SOL 130  
 Department: Science  
 Program or Curriculum: Solar Energy Technology  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Economics; Solar Home Construction; Space Heating; Space Cooling

**Practicum in Solar Technology**

Instructor: Comarow, David  
 (702) 643-6060  
 Course Number: SOL 1210  
 Department: Science  
 Program or Curriculum: Solar Energy Technology  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 9.0 hrs per week  
 Contact Hours: 135

Topics Covered Extensively: Domestic Hot Water; Swimming Pool Heating; Process Heat, Industrial; Space Heating; Space Cooling

**Solar Energy Technology--Home Owner**

Instructor: Comarow, David

(702) 643-6060

Course Number: ENV 1163

Department: Science

Program or

Curriculum: Solar Energy Technology

Student Level: All levels

Duration: 1 Weeks, 15.0 hrs per week

Contact Hours: 15

Classroom: 15

Topics Covered Extensively: Alternate

Energy Sources; Appropriate Technology;

Energy Conservation; Energy Conversion;

Energy Storage; Heat and Energy

Transfer; Intro. to Solar Energy;

Passive Solar Technology; Plumbing

Techniques; Solar System Components;

Solar Economics; Solar Home

Construction; Solar Collector

Evaluation; Design; Solar Systems

Design; Solar Systems Installation;

Solar Systems Maintenance; Solar

Systems Testing and Evaluation;

Domestic Hot Water; Swimming Pool

Heating; Space Heating; Space Cooling

Number of Times Taught: 7

Average Enrollment: 100

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**Colleges/Universities****DARTMOUTH COLLEGE**

(2573)

HANOVER, New Hampshire  
(603) 646-1110

**PROGRAMS AND CURRICULA**

\*Solar Studies-Bldg. Heat. and Photov.

**SOLAR RELATED COURSES****\*Intro. to Solar Energy**

Department: Thayer School of Eng'n  
Program or Curriculum: \*Solar Studies-Bldg.  
Heat. and Photov.

Student Level: All levels  
Topics Covered Extensively: Intro. to  
Solar Energy

**\*Solar Energy Design**

Department: Thayer School of Eng'n  
Program or Curriculum: \*Solar Studies-Bldg.  
Heat. and Photov.

Student Level: All levels  
Topics Covered Extensively: Solar System  
Components: Solar Collector  
Evaluation/Design: Solar Systems Design

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**NEW ENGLAND COLLEGE**

(2579)

HENRIKER, New Hampshire  
(603) 428-2211

**SOLAR RELATED COURSES****Energy Issues**

Instructor: Lemons, John  
(603) 428-2388  
Course Number: ES202  
Department: Environmental Studies  
Credits: 4  
Student Level: All levels  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation  
Average Enrollment: 40

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**NH PLYMOUTH ST COLLEGE, U**

(2591)

PLYMOUTH, New Hampshire  
(603) 538-1550

**SOLAR RELATED COURSES****\*Solar Energy Survey**

Course Number: 74.111  
Department: Natural Science  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 8 Weeks, 3.0 hrs per week  
Contact Hours: 24

Classroom: 24

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion;  
Energy Storage; Intro. to Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 40

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**Vocational/Technical Colleges****NH VOC-TECH O. MANCHESTER**

(2582)

MANCHESTER, New Hampshire  
(603) 663-6706

**PROGRAMS AND CURRICULA****Solar Energy Certificate Program**

Degree: Solar Energy  
Contact: Magnon, David  
(603) 668-6706

Students Taking or Completing Offering:  
Educator, Do-it-yourself Homeowner

**SOLAR RELATED COURSES****Energy Conservation - Principles**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M941EV  
Department: Evening  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Energy  
Conservation  
Number of Times Taught: 1  
Average Enrollment: 20

**Energy Survey & Alternative Systems**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M940EV  
Department: Evening  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Intro. to Solar  
Energy; Passive Solar Technology  
Number of Times Taught: 1  
Average Enrollment: 20

**Principles of Solar Design**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M943EV  
Department: Evening Extension  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems Design

**Solar Construction & Installation Tech.**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M944EV  
Department: Evening Extension  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 4  
Student Level: All levels  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems Maintenance

**Solar Energy - a Prime Energy Resource**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M942EV  
Department: Evening Extension  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 4  
Student Level: All levels  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Alternate  
Energy Sources; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Collector  
Evaluation/Design; Space Heating

**Solar Heating Systems**

Instructor: Byrne, E.  
Course Number: 404  
Department: HVAC  
Credits: 4  
Student Level: All levels  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Plumbing  
Techniques; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 25

**Solar Seminar - Integrated Projects**

Instructor: Magnon, David  
(603) 668-6706  
Course Number: M945EV  
Department: Evening Extension  
Program or Curriculum: Solar Energy  
Certificate Program  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36

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NH VOC- TECH C NASHUA  
NASHUA, New Hampshire  
(603) 882-6923

(9236)

**SOLAR RELATED COURSES****Energy and Energy Sources**

Instructor: Mihager, Lawrence  
Course Number: 826  
Department: Math/Science  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Intro. to Solar  
Energy; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 20

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**Other Educational Institutions****NEW ENGLAND CENTER FOR APPROPRIATE  
TECH.**

(90250)

15 Garrison Ave.  
Durham, New Hampshire 03824

**SOLAR RELATED COURSES****\*Passive Solar Workshops-incls. Greenhouse**

Instructor: O'Donnell, Richard  
(603) 862-2764  
Topics Covered Extensively: Passive  
Solar Technology

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## Colleges/Universities

**FARLGH DCKSH TEANECK CAM** (2607)  
TEANECK, New Jersey  
(201) 836-6300

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Wieden, S.  
(201) 836-6300  
Course Number: FH431  
Department: Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Appropriate Technology; Materials Research; Solar Collector Evaluation/Design  
Number of Times Taught: 1  
Average Enrollment: 10

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**GLASSBORO STATE COLLEGE** (2609)  
GLASSBORO, New Jersey  
(609) 445-5000

## PROGRAMS AND CURRICULA

*Energy and Trans. Concentration*

Degree: MA, BA, Arts  
Contact: Weiss, Leigh  
(609) 445-6209

Students Taking or Completing Offering:  
Educator, Do-it-yourself Homeowner,  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Solar Technician

## SOLAR RELATED COURSES

*Advanced Solar Energy Systems*

Instructor: Weiss, Leigh B.  
(609) 445-6209  
Department: Industrial Education & Technology  
Program or Curriculum: Energy and Trans Concentration  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 60  
Laboratory: 36  
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 10

*Solar Energy*

Instructor: Weiss, Leigh B.  
(609) 445-6209  
Department: Industrial Education & Technology  
Program or Curriculum: Energy and Trans Concentration  
Credits: 3  
Student Level: Junior or Senior  
Duration: 17 Weeks, 6.0 hrs per week  
Contact Hours: 102  
Classroom: 70  
Laboratory: 32  
Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
Number of Times Taught: 8  
Average Enrollment: 20

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**MONTCLAIR STATE COLLEGE** (2617)  
UPPER MONTCLAIR, New Jersey  
(201) 893-4000

## PROGRAMS AND CURRICULA

*Industrial Powers*

Degree: BA, BS,  
Students Taking or Completing Offering:  
Educator, Electrician, Plumber, Sheet Metal Worker

## SOLAR RELATED COURSES

*Alternate Energy Conversion Systems*

Instructor: Greenwald, Martin  
(201) 893-4163  
Course Number: 484  
Department: Industrial Educ. & Technology  
Program or Curriculum: Industrial Powers  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems



Number of Times Taught: 8  
Average Enrollment: 20

**Wind Energy Conversion Systems**

Instructor: Greenwald, Martin  
(201) 893-4163  
Course Number: 485  
Department: Industrial Educ. & Technology

Program or Curriculum: Industrial Powers  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Marketing/Market Analysis; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 1  
Average Enrollment: 25

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**NJ INSTITUTE TECHNOLOGY**

NEWARK, New Jersey  
(201) 645-5321

**PROGRAMS AND CURRICULA****Mech. Engrg. & Technology**

Degree: BS, Mech. Engrg., Mech. Engrg. Tech.  
Contact: Kirchner, R.  
(201) 645-5378

Students Taking or Completing Offering: Architect, Solar Engineer, Other

**SOLAR RELATED COURSES****Introduction to Solar Energy**

Instructor: Kirchner, R.  
(201) 645-5378  
Course Number: ME 480  
Department: Mechanical Engineering  
Program or Curriculum: Mech. Engrg. & Technology

Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation Design

Number of Times Taught: 5  
Average Enrollment: 20

**Solar Energy Applications**

Instructor: Kirchner, R.  
(201) 645-5378  
Course Number: MET417  
Department: Mechanical Engineering  
Program or Curriculum: Mech. Engrg. & Technology

Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 45  
Laboratory: 3

Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Number of Times Taught: 4

**Solar Heating Design**

Instructor: Kirchner, R.  
(201) 645-5378  
Department: Mechanical Engineering  
Program or Curriculum: Mech. Engrg. & Technology

Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 45

Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating

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**PRINCETON UNIVERSITY**

PRINCETON, New Jersey  
(609) 452-3000

(2627)

**PROGRAMS AND CURRICULA****Energy Conversion and Resources**

Degree: PhD, MS, BA, BS, Mechanical Engineering  
Contact: Bostonoff, Seymour  
(609) 452-5125

Students Taking or Completing Offering: Architect, Educator, Researcher, Solar Engineer

**SOLAR RELATED COURSES****Characteristics and Technology of Materials**

Instructor: Royce, B. S. H.  
(609) 452-4681  
Course Number: ENSP 202  
Department: Mechanical and Aerospace Engineering  
Program or Curriculum: Energy Conversion and Resources

Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Materials Research; Photovoltaics  
 Number of Times Taught: 5  
 Average Enrollment: 13

**Ener. and the Envir.: A Quantitative App.**

Instructor: Socolow, R.  
 (609) 452-5446  
 Course Number: ENSP 213  
 Department: Mechanical and Aerospace Engineering  
 Program or Curriculum: Energy Conversion and Resources  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Space Heating  
 Number of Times Taught: 5  
 Average Enrollment: 30

**Intro. to Solar Thermal Engineering**

Instructor: Antal, M. J.  
 (609) 452-5136  
 Course Number: ENSP 101  
 Department: Mechanical and Aerospace Engineering  
 Program or Curriculum: Energy Conversion and Resources  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Classroom: 20  
 Laboratory: 19  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Systems Design; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 50

**Physical Processes of Energy Conversion**

Instructor: Miles, R. B.  
 (609) 452-5131  
 Course Number: MAE 328  
 Department: Mechanical and Aerospace Engineering  
 Program or Curriculum: Energy Conversion and Resources  
 Credits: 3  
 Student Level: Junior or Senior

Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Energy Conversion; Energy Storage  
 Number of Times Taught: 5  
 Average Enrollment: 20

**Special Topics: Power & Propulsion**

Instructor: Antal, M. J.  
 (609) 452-5136  
 Course Number: MAE 587  
 Department: Mechanical and Aerospace Engineering  
 Program or Curriculum: Energy Conversion and Resources

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Classroom: 39  
 Topics Covered Extensively: Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar System Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation; Central; Process Heat; Agricultural; Process Heat; Industrial; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 10

**States of Matter**

Instructor: Royce, B. S. H.  
 (609) 452-4681  
 Course Number: MAE 324  
 Department: Mechanical and Aerospace Engineering  
 Program or Curriculum: Energy Conversion and Resources  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Classroom: 39  
 Topics Covered Extensively: Materials Research; Photovoltaics  
 Number of Times Taught: 1  
 Average Enrollment: 10

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**RAMAPO CO OF NEW JERSEY**

(9344)

MAHWAH, New Jersey  
 (201) 825-2800

**PROGRAMS AND CURRICULA****Alternative Energy**

Degree: BA, BS, Environmental Studies, Human Ecology  
 Contact: Harrison, Eugene  
 (201) 825-2800

Students Taking or Completing Offering:  
Educator, Researcher, Do-it-yourself  
Homeowner, Other

## SOLAR RELATED COURSES

*Alternative Energy Design*

Instructor: Makofske, W.  
(201) 825-2800  
Course Number: 400  
Department: Environmental Studies  
Program or Curriculum: Alternative Energy  
Credits: 4  
Student Level: Junior or Senior  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 48  
Laboratory: 16

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Passive Solar  
Technology; Solar System Components;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating; Wind Power, Small Systems

*Alternative Energy Sources*

Instructor: Makofske, William  
(201) 825-2800  
Course Number: 300  
Department: Environmental Studies  
Program or Curriculum: Alternative Energy  
Credits: 4  
Student Level: Junior or Senior  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 64

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Photovoltaics; Solar System Components  
Number of Times Taught: 3  
Average Enrollment: 40

*Alternative Energy Workshop*

Instructor: Greenwald, M./ Makoske,  
W.  
(201) 825-2800  
Course Number: 300  
Department: Environmental Studies  
Program or Curriculum: Alternative Energy  
Credits: 4  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 24  
Laboratory: 40

Topics Covered Extensively: Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems

Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Domestic Hot Water; Space Heating; Wind  
Power, Small Systems

Number of Times Taught: 6  
Average Enrollment: 25

*Energy Efficient Solar Design*

Instructor: Makofske, W.  
(201) 825-2800  
Course Number: 300  
Department: Environmental Studies  
Program or Curriculum: Alternative Energy  
Credits: 4  
Student Level: Junior or Senior  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 64

Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 50

*Energy, Power and the Environment*

Instructor: Makoske, W.  
(201) 825-2800  
Course Number: 200-300  
Department: Environmental Studies  
Program or Curriculum: Alternative Energy  
Credits: 4  
Student Level: All levels  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 64

Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer;  
Intro. to Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 40

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RUTGERS U NEW BRUNSWICK  
NEW BRUNSWICK, New Jersey  
(201) 932-1766

(6964)

## SOLAR RELATED COURSES

*Solar Thermal Ener. Collect. and Stor.*

Instructor: Briggs, David G.  
(201) 923-3656  
Course Number: 650/474  
Department: Mech. Indus. and  
Aerospace Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy

Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 63

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**STOCKTON STATE COLLEGE**  
PONCHA, New Jersey  
(609) 652-1776

(9345)

#### SOLAR RELATED COURSES

##### *Solar Energy*

Instructor: Taylor, Harold  
(609) 652-1776  
Course Number: PHYS3320  
Department: Natural Sciences and  
Mathematics  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 53  
Classroom: 53  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Testing and  
Evaluation; Domestic Hot Water;  
Swimming Pool Heating; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 30

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#### Community/Junior Colleges

**BROOKDALE CHTY COLLEGE** (8404)  
LINCOLN, New Jersey  
(201) 842-1900

#### SOLAR RELATED COURSES

*Solar Energy: Its Nature and Use*  
Instructor: Ziss, Paul  
(201) 842-1900  
Course Number: NSC78A  
Department: Extension-Natural and  
Applied Sciences  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Intro. to  
Solar Energy

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**MIDDLESEX COUNTY COLLEGE** (2615)  
EDISON, New Jersey  
(201) 548-6000

#### SOLAR RELATED COURSES

\*Workshop Appr. to Teach, Train. in Energ.  
Department: Project Waite

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#### Vocational/Technical Colleges

**MERCER CO AREA VOC. TECH. SCHOOLS** (90560)  
1085 Old Trenton Rd.  
TRENTON, New Jersey 08690

#### SOLAR RELATED COURSES

\*Install Solar Heat. & Cool.  
Department: Plumbing, Heating, &  
Refrig.  
Topics Covered Extensively: Plumbing  
Techniques; Solar System Components;  
Solar Systems Installation; Domestic  
Hot Water; Space Heating; Space Cooling

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**OCEAN COUNTY VOCATIONAL TECHNICAL  
SCHOOLS** (90380)  
Route 571  
Jackson, New Jersey 08527

#### PROGRAMS AND CURRICULA

\*Sol. Ener. Theory - Heat., Vent., A/C  
Tech.  
Degree: Evening School Certificate

#### SOLAR RELATED COURSES

\*Sol. Ener. Theory - Heat., Vent., A/C Tech.  
Department: Evening School  
Program or  
Curriculum: \*Sol. Ener. Theory -  
Heat., Vent., A/C  
Tech.  
Student Level: All levels  
Duration: 15 Weeks  
Topics Covered Extensively: Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating

\*Solar Energy Workshop  
Department: Evening School  
Student Level: All levels  
Topics Covered Extensively: Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems

## Installation; Domestic Hot Water

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## PASSAIC SCHOOL OF DRAFTING

(90080)

657 Main Avenue  
Passaic, New Jersey 07055

## PROGRAMS AND CURRICULA

## Solar Energy Design

Degree: NQ Architectural Draftsman  
Contact: Adamoff, O. J.  
(201) 777-4209

Students Taking or Completing Offering:  
Trade Specialty

## SOLAR RELATED COURSES

## Arch. Drafting (Solar Energy Des.)

Instructor: Stix, G.H.  
(201) 777-4909  
Department: Arch. Drafting  
Program or Curriculum: Solar Energy Design  
Student Level: High School Graduate  
Duration: 4 Weeks, 25.0 hrs per week  
Contact Hours: 100  
Classroom: 10  
Laboratory: 90  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar Collector Evaluation/Design; Solar Systems Design

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## SALEM COUNTY VOCATIONAL TECHNICAL SCHOOLS

(90420)

R.O. #2, Box 350  
Woodstown, New Jersey 08098

## PROGRAMS AND CURRICULA

## \*Plumbing and Heating Trades

## SOLAR RELATED COURSES

## \*Introduction to Solar Heating

Department: Continuing Education  
Contact Hours: 35  
Topics Covered Extensively: Space Heating; Space Cooling

## \*Unit on Solar Energy

Program or Curriculum: \*Plumbing and Heating Trades  
Student Level: All levels  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water

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UNION CO TECHNICAL INST  
SCOTCH PLAINS, New Jersey  
(201) 889-2000

(6139)

## SOLAR RELATED COURSES

## Solar Heating I

Instructor: Mai, Frank  
(201) 889-2000  
Course Number: HV-201-71  
Department: Heating Ventilating-Air Conditioning  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 15  
Laboratory: 30  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
Number of Times Taught: 2  
Average Enrollment: 20

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## Other Educational Institutions

ESSEX COUNTY TECHNICAL CAREERS CENTER (90390)  
91 West Market St.  
Newark, New Jersey

## PROGRAMS AND CURRICULA

\*Day Program - Sol. Heat. Systems  
Degree: Certificate

\*Night Program - Sol. Heat Systems  
Degree: Certificate

## SOLAR RELATED COURSES

## \*Solar Heating Systems - (Day Course)

Department: Adult Education  
Program or Curriculum: \*Day Program - Sol. Heat. Systems  
Contact Hours: 300  
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling



**\*Solar Heating Systems - (Night Course)**

Department: Adult Education

Program or

Curriculum: \*Night Program - Sol.  
Heat. Systems

Contact Hours: 120

Topics Covered Extensively: Solar System

Components; Solar Collector

Evaluation/Design; Solar Systems

Design; Solar Systems Installation;

Solar Systems Maintenance; Domestic Hot

Water; Space Heating; Space Cooling

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**SOUTHERN NEW JERSEY OIC**

(90070)

Camden, New Jersey

**PROGRAMS AND CURRICULA****Solar Energy Unit Installer Program**

Degree: Completion Certificate

Contact: Keene, Joseph P.

(609) 944-2545

Students Taking or Completing Offering:

Installer-Residential (Solar System)

**SOLAR-RELATED COURSES****Solar Energy Installer**

Instructor: Keene, Joseph P.

(609) 966-2545

Program or

Curriculum: Solar Energy Unit

Installer Program

Student Level: High School Graduate

Duration: 26 Weeks, 5.0 hrs per week

Contact Hours: 130

Topics Covered Extensively: Appropriate

Technology; Biomass Conversion; Energy

Conservation; Energy Conversion; Energy

Storage; Heat and Energy Transfer;

Intro. to Solar Energy; Passive Solar

Technology; Plumbing Techniques; Solar

System Components; Solar Systems

Installation; Domestic Hot Water;

Swimming Pool Heating; Space Heating

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## Colleges/Universities

NEW MEXICO HIGHLANDS U (2653)  
LAS VEGAS, New Mexico 87701  
(505) 425-7511

## PROGRAMS AND CURRICULA

*Solar Greenhouse Construction*  
Degree: NO,  
Contact: Martinez, E. Eloy  
(505) 425-7511

## SOLAR RELATED COURSES

*Introduction to Solar Heating*  
Instructor: Yarger, Frederick L.  
(505) 425-7511  
Course Number: 135  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Classroom: 20  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Home Construction  
Number of Times Taught: 7  
Average Enrollment: 20

*Solar Greenhouse Construction*  
Instructor: Coca, Michael  
Department: Industrial Education  
Program or  
Curriculum: Solar Greenhouse  
Construction  
Student Level: All levels  
Duration: 8 Weeks, 3.0 hrs per week  
Contact Hours: 24  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy; Solar  
Home Construction; Space Heating; Space  
Cooling  
Number of Times Taught: 2  
Average Enrollment: 8

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NM MAIN CAMPUS, U OF (10313)  
ALBUQUERQUE, New Mexico 87131  
(505) 277-0111

## SOLAR RELATED COURSES

*Applied Solar Energy-Engineering Systems*  
Instructor: Wessling, F. C.  
(505) 277-4937  
Course Number: ME 425  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Passive Solar

Technology; Solar Collector  
Evaluation/Design; Solar Systems Design  
Number of Times Taught: 3  
Average Enrollment: 18

*Energy Utilization and Conversion*

Instructor: Houghton, A. V.  
(505) 277-5604  
Course Number: 382  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Conversion;  
Energy Storage; Intro. to Solar Energy;  
Photovoltaics; Solar Energy Policy  
Development; Solar System Components  
Number of Times Taught: 7  
Average Enrollment: 22

*Power Generating Systems*

Instructor: Houghton, A. V.  
(505) 277-5604  
Course Number: 483  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conservation; Marketing/Market  
Analysis; Materials Research; Plumbing  
Techniques; Sheet Metal Techniques  
Number of Times Taught: 3  
Average Enrollment: 25

*Solar Energy System Design and Analysis*

Instructor: Wessling, F. C.  
(505) 277-4937  
Course Number: M.E. 525  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Collector Evaluation/Design; Solar  
Systems Design  
Number of Times Taught: 2  
Average Enrollment: 10

*Solar Energy Use*

Instructor: Ebenezer, J.  
(505) 277-5221  
Course Number: 305  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Passive

Solar Technology; Solar System  
Components; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 3  
Average Enrollment: 170

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NM STATE U MAIN CAMPUS (2657)  
LAS CRUCES, New Mexico 88003  
(505) 646-2035

#### PROGRAMS AND CURRICULA

##### Solar Engineering

Degree: ~~PhD, MS~~ Mechanical Engr.  
Contact: Smith, P. R.  
(505) 646-3501

Students Taking or Completing Offering:  
Researcher, Solar Engineer

#### SOLAR RELATED COURSES

##### Solar Energy

Instructor: Mancini, T. R.  
(505) 646-3501  
Course Number: 555  
Department: Mechanical Engr.  
Program or  
Curriculum: Solar Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39

Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems Testing and  
Evaluation; Domestic Hot Water;  
Swimming Pool Heating; Process Heat,  
Industrial; Space Heating; Space  
Cooling

Number of Times Taught: 4  
Average Enrollment: 15

##### Solar Energy Utilization

Instructor: Mancini, T.R./ Fenton,  
D.L.  
(505) 646-3501

Course Number: 455  
Department: Mechanical Engineering  
Program or

Curriculum: Solar Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Home Construction; Solar

Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Swimming Pool Heating; Space Heating;  
Space Cooling

Number of Times Taught: 10  
Average Enrollment: 30

##### Solar Heating and Cooling

Instructor: Lumsdaire, E./ Mancini,  
T.R.  
(505) 646-3501

Course Number: 565  
Department: Mechanical Engr.  
Program or  
Curriculum: Solar Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39

Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology;  
Photovoltaics; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Law/Legislation;  
Solar Collector Evaluation/Design;  
Space Heating; Solar Systems Testing  
and Evaluation; Domestic Hot Water;  
Swimming Pool Heating; Space Heating;  
Space Cooling

Number of Times Taught: 1  
Average Enrollment: 10

##### Solar Thermal Power

Instructor: Mulholland, G. P.  
(505) 646-3501

Course Number: 575  
Department: Mechanical Engr.  
Program or  
Curriculum: Solar Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Materials Research; Solar System  
Components; Solar Law/Legislation;  
Solar Systems Design; Solar Systems  
Testing and Evaluation; Elec'l  
Generation, Central

Number of Times Taught: 1  
Average Enrollment: 8

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SANTA FE, COLLEGE OF (2649)  
SANTA FE, New Mexico 87501-  
(505) 932-6011

#### SOLAR RELATED COURSES

##### Elect. from the Wind

Instructor: Dankoff, Mark  
(505) 471-2573  
Department: Continuing Education

Student Level: College Graduate  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Classroom: 12  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction  
Number of Times Taught: 15  
Average Enrollment: 10

**Solar Energy**

Instructor: Haggard, Keith  
(505) 983-1006  
Department: Continuing Education  
Student Level: College Graduate  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Classroom: 12  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction; Wind Power, Small Systems  
Number of Times Taught: 15  
Average Enrollment: 10

**Solar Greenhouses**

Instructor: Yanda, Bill  
(505) 983-1006  
Department: Continuing Education  
Student Level: College Graduate  
Duration: 8 Weeks, 2.0 hrs per week  
Contact Hours: 16  
Classroom: 12  
Topics Covered Extensively: Passive  
Solar Technology; Solar Home  
Construction; Wind Power, Small Systems  
Number of Times Taught: 15  
Average Enrollment: 10

**Solar-Adobe Design and Construction**

Instructor: Wilson, Quentin/  
Chalom, Mark  
(505) 583-2356  
Department: Continuing Education  
Student Level: All levels  
Duration: 8 Weeks, 3.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Topics Covered Extensively: Solar Home  
Construction; Space Heating; Space  
Cooling

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**Community/Junior Colleges**

NORTHERN NM COMMUNITY COLLEGE (29087)  
EL RITO, New Mexico 87530  
(505) 581-4501

**SOLAR RELATED COURSES****Solar-Adobe Design and Construction**

Instructor: Wilson, Quentin C.  
(505) 583-2356

Department: Continuing  
Education/Community  
Services

Student Level: All levels  
Duration: 8 Weeks, 3.0 hrs per week  
Contact Hours: 24  
Classroom: 24  
Topics Covered Extensively: Solar Home  
Construction; Solar Systems Design  
Number of Times Taught: 7  
Average Enrollment: 12

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## Colleges/Universities

## ADELPHI UNIVERSITY (2666)

GARDEN CITY, New York 11530  
(516) 294-8700

## PROGRAMS AND CURRICULA

## Energy Institute

Degree: M.S. BS, Physics, Energy  
Studies

Contact: Docher, John  
(516) 294-8700

Students Taking or Completing Offering:  
Educator, Researcher

## SOLAR RELATED COURSES

## Physics of Energy

Instructor: Burke, Edward  
(516) 294-8700

Course Number: 117

Department: Physics

Program or

Curriculum: Energy Institute

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 2.0 hrs per week

Contact Hours: 30

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Solar Energy Policy  
Development; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Maintenance;  
Domestic Hot Water; Space Heating;  
Space Cooling

Number of Times Taught: 3

Average Enrollment: 10

## Solar Heating and Cooling

Instructor: Garrell, Martin  
(516) 294-8700

Course Number: 670

Department: Physics

Program or

Curriculum: Energy Institute

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 2.0 hrs per week

Contact Hours: 30

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Solar Energy Policy  
Development; Solar Economics; Solar  
Home Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Maintenance;  
Domestic Hot Water; Space Heating;  
Space Cooling

Number of Times Taught: 1

Average Enrollment: 40

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## BARD COLLEGE

(2671)

ANNANDALE-ON-HUDSON, New York 10504  
(914) 758-6822

## SOLAR RELATED COURSES

## Alternative Energy Sources

Instructor: Brody, Burton  
(914) 758-6822

Department: Physics

Credits: 4

Student Level: All levels

Duration: 13 Weeks, 4.0 hrs per week

Contact Hours: 42

Classroom: 32

Laboratory: 2

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Elec'l  
Generation, Small Scale; Space Heating

Number of Times Taught: 1

Average Enrollment: 30

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## CLARKSON COLLEGE OF TECHN

(2699)

ROTS DAM, New York 13676  
(315) 268-6400

## SOLAR RELATED COURSES

## Alternate Sources of Energy

Instructor: Clark, James  
(315) 268-6588

Course Number: ME 315

Department: Mechanical and  
Industrial Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage;  
Intro. to Solar Energy; Solar Systems  
Design; Wind Power; Central Systems;  
Wind Power, Small Systems

Number of Times Taught: 3

Average Enrollment: 35

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## COLUMBIA U MAIN DIVISION

(2707)

NEW YORK, New York 10027  
(212) 280-1754

## SOLAR RELATED COURSES

## Solar Energy Applications

Instructor: Sanders, W.T.  
(212) 280-4126

Course Number: MEE4224X

Department: Mechanical Engineering

Credits: 3

Student Level: College Graduate

Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42

Classroom: 36



Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

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CORNELL U STATUTORY C  
ITHACA, New York 14853  
(607) 256-1000

(11693)

#### SOLAR RELATED COURSES

##### *Energy and Man*

Instructor: Albright, L. D.  
(607) 256-4535  
Course Number: 201  
Department: Agr. and Life Sci.,  
Agr. Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy

Number of Times Taught: 4  
Average Enrollment: 25

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CUNY BROOKLYN COLLEGE  
BROOKLYN, New York 11210  
(212) 780-5485

(2687)

#### PROGRAMS AND CURRICULA

##### *Energy Related Topics*

Contact: Celenza, L. S.  
(212) 780-5813

#### SOLAR RELATED COURSES

##### *Energy in a Technological Society*

Instructor: Celenza  
(212) 780-5813  
Department: Physics  
Program or Curriculum: Energy Related Topics  
Credits: 3  
Student Level: College Graduate  
Duration: 2 Weeks, 23.0 hrs per week  
Contact Hours: 45

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Elec'l Generation,

Central; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

##### *Energy in a Technological Society Phys 0.3*

Instructor: Celenza  
(212) 780-5813  
Course Number: PHYS 0.3  
Department: Physics  
Program or Curriculum: Energy Related Topics  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Economics; Solar Home Construction; Elec'l Generation, Central; Elec'l Generation, Small Scale  
Number of Times Taught: 3  
Average Enrollment: 70

##### *Energy Technology*

Instructor: Skorinko  
(212) 780-5817  
Course Number: PHYS 38  
Department: Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Elec'l Generation, Central; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

##### *Seminar Series on Energy and Solar Energy*

Instructor: Schwartz, Brian  
(212) 780-5687  
Department: Science  
Student Level: Junior or Senior  
Topics Covered Extensively: Photovoltaics

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##### CUNY C OF STATEN ISLAND

(29040)

STATEN ISLAND, New York 10301  
(212) 720-3000

#### SOLAR RELATED COURSES

##### *Solar Energy*

Instructor: Napkivell, John  
(212) 390-7524  
Course Number: MET 108  
Department: Mechanical Technology  
Credits: 3

Student Level: High School Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Number of Times Taught: 1  
 Average Enrollment: 46

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CUNY CITY COLLEGE  
 NEW YORK, New York 10031  
 (212) 690-6741

(2688)

## SOLAR RELATED COURSES

*Principles of Solar Energy*

Instructor: Lusting, M.  
 (212) 690-6850  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. to Solar Energy  
 Average Enrollment: 18

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CUNY GRAD SCH & U CENTER  
 NEW YORK, New York 10036  
 (212) 790-4395

(4063)

## SOLAR RELATED COURSES

*Direct Energy Conversion*

Instructor: Shulman, Carl  
 (212) 690-4241  
 Course Number: EE 5688  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Photovoltaics; Elec'l Generation, Small Scale  
 Number of Times Taught: 1  
 Average Enrollment: 6

*Solar Energy Thermal Process*

Instructor: Hawett, Thomas A.  
 (914) 345-3212  
 Course Number: ME 5533  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 12

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HAMILTON COLLEGE  
 CLINTON, New York 13323  
 (315) 859-4011

(2728)

## SOLAR RELATED COURSES

*Physics of Energy*

Instructor: Ring, James W.  
 (315) 859-7510  
 Course Number: WT170  
 Department: Physics  
 Student Level: Freshman or Sophomore  
 Duration: 6 Weeks, 12.0 hrs per week  
 Contact Hours: 72  
 Classroom: 36  
 Laboratory: 36  
 Number of Times Taught: 3  
 Average Enrollment: 20

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MANHATTAN COLLEGE  
 BRONX, New York 10471  
 (212) 548-1400

(2758)

## SOLAR RELATED COURSES

*Direct Energy Conversion*

Instructor: Ley, James  
 (212) 548-1400  
 Course Number: 735  
 Department: Engineering, Electrical Engin.  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Energy Conversion  
 Number of Times Taught: 2  
 Average Enrollment: 18

*Energy Conversion Systems*

Instructor: Koplik, Bernard  
 (212) 548-1400  
 Course Number: 710  
 Department: Engineering, Mech. Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion

*Energy Sources*

Instructor: Ley, James  
 (212) 548-1400  
 Course Number: 466  
 Department: Engineering, Elec. Engin.  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate

New York

Solar Energy Research Institute

Energy Sources; Energy Conversion  
Number of Times Taught: 5  
Average Enrollment: 15

#### Radiation Heat Transfer

Instructor: Koplik, Bernard  
(212) 548-1400  
Course Number: 709  
Department: Engineering, Mechanical  
Eng  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Heat and  
Energy Transfer

#### Solar Energy Systems

Instructor: Koplik, Bernard  
(212) 548-1400  
Course Number: 711  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion;  
Solar System Components; Intro. to  
Solar Energy; Solar Systems Design  
Number of Times Taught: 1  
Average Enrollment: 15

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HAZARETH C OF ROCHESTER  
ROCHESTER, New York 14610  
(716) 536-2525

(2779)

#### SOLAR RELATED COURSES

##### Energy, Our Servant-Our Problem

Instructor: Gannaway, Susan  
(716) 536-2525  
Course Number: CHM 111  
Department: Chemistry  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation  
Number of Times Taught: 2  
Average Enrollment: 30

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NEW YORK UNIVERSITY  
NEW YORK, New York 10012  
(212) 593-1212

(2785)

#### PROGRAMS AND CURRICULA

##### Solar Energy

Degree: Certificate of Participation  
Contact: Philipps, Denis Sinclair  
(212) 598-2101

#### SOLAR RELATED COURSES

##### Prac., Tech. Prob. Solv. IV-Sol. Ener.

Instructor: Hahn, Marshall S.  
(212) 598-3356  
Department: Technology and  
Industrial Education  
Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Passive Solar Technology; Domestic Hot  
Water; Space Heating; Wind Power, Small  
Systems

Number of Times Taught: 1  
Average Enrollment: 16

##### Solar Energy

Instructor: Wilke, Douglas A.  
(516) 759-9050  
Department: NRC/Continuing  
Education

Program or  
Curriculum: Solar Energy  
Credits: 1  
Student Level: College Graduate  
Duration: 1 Weeks, 24.0 hrs per week  
Contact Hours: 24

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Passive Solar  
Technology; Photovoltaics; Plumbing  
Techniques; Solar Energy Policy  
Development; Sheet Metal Techniques;  
Solar System Components; Solar  
Economics; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Domestic Hot Water;  
Swimming Pool Heating; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale; Process Heat,  
Agricultural; Process Heat, Industrial;  
Space Heating; Space Cooling; Wind  
Power, Central Systems; Wind Power,  
Small Systems

Number of Times Taught: 10  
Average Enrollment: 30

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**POLYTECHNIC INST NEW YORK**  
BROOKLYN, New York 11201  
(212) 643-5000

(2796)

**SOLAR RELATED COURSES****Solar Energy for Heating and Cooling**

Instructor: Scarl, Donald  
(516) 694-5500  
Course Number: ES920  
Department: Interdepartmental  
Credits: 3  
Student Level: College/Graduate  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 4  
Average Enrollment: 40

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**RENSSELAER POLY INSTITUTE**  
TROY, New York 12181  
(518) 270-6000

(2803)

**SOLAR RELATED COURSES****Energy Conscious Design**

Instructor: Kroner, Walter  
(518) 270-6461  
Course Number: 10.4701  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling; Wind Power; Central Systems; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 25

**Heat Transfer in Solar Devices**

Instructor: Modest, M. F./  
Scaringe, R.  
(518) 270-6545  
Course Number: 37.470  
Department: ME, AE & M  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar

Energy; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling

**Solar Energy System**

Instructor: Shen, C. H.  
(518) 270-6486  
Course Number: 35.446  
Department: Electrical and Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Solar Economics; Solar Collector Evaluation/Design; Solar System Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 20

**ROCHESTER INST TECHNOLOGY**  
ROCHESTER, New York 14623  
(716) 255-2411

(2804)

**SOLAR RELATED COURSES****Alternate Energy Sources**

Instructor: Walter, W. W.  
Course Number: ENEM 601  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 44  
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Space Heating; Wind Power; Central Systems; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 22

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**ROCHESTER UNIVERSITY**  
ROCHESTER, New York 14627  
(716) 275-2121

(2894)

**SOLAR RELATED COURSES****Energy Conversion**

Instructor: Rubin, M.  
(716) 275-5284  
Course Number: MAS 202  
Department: Mechanical and Aerospace Sciences  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42



# New York

Classroom: 42  
Topics Covered Extensively: Energy Conversion  
Number of Times Taught: 5  
Average Enrollment: 20

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SAINT BONAVENTURE U (2817)  
SAINT BONAVENTURE, New York 14778  
(716) 375-2000

## SOLAR RELATED COURSES

### Alternative Energy Sources

Instructor: Neeson, John  
(716) 375-2516  
Course Number: PHSC 115  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer

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SAINT JOHN FISHER COLLEGE (2821)  
ROCHESTER, New York 14618  
(716) 586-4140

## SOLAR RELATED COURSES

### Energy: Its Science and Technology

Instructor: Heininger, Clarence  
(716) 586-4140  
Course Number: SCI 200  
Department: Chemistry  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 4  
Average Enrollment: 12

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# Solar Energy Research Institute

SUNY AT ALBANY (2835)  
Albany, New York 12242  
(518) 457-3300

## PROGRAMS AND CURRICULA

Solar Energy Meteor. and Train. Site  
Degree: PhD, MS, BS, Atmospheric Sciences  
Contact: Stewart, Ronald  
(518) 457-7584

Students Taking or Completing Offering:  
Educator, Researcher, Solar Technician

## SOLAR RELATED COURSES

### Solar Energy Workshop

Instructor: Stewart, Ronald  
(518) 457-7584  
Department: Atmospheric Sci. Research Center  
Program or Curriculum: Solar Energy Meteor. and Train. Site  
Credits: 3  
Student Level: College Graduate  
Duration: 1 Week, 40.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 10

### Solar Radiation

Instructor: Czapski, Ulrich  
(518) 457-3991  
Course Number: 639  
Department: Atmospheric Science  
Program or Curriculum: Solar Energy Meteor. and Train. Site  
Credits: 3  
Student Level: College Graduate  
Duration: 20 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Number of Times Taught: 1  
Average Enrollment: 10

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SUNY AT BINGHAMTON (2836)  
BINGHAMTON, New York 13901  
(607) 798-2000

## PROGRAMS AND CURRICULA

### Physics-Specialization in Solar Energy

Degree: BA, BS,  
Physics-Specialization in  
Solar Energy  
Contact: Stannard, C. R.  
(607) 798-2217  
Students Taking or Completing Offering:  
Educator, Researcher, Solar Engineer



## SOLAR RELATED COURSES

*Energy Sources and Conversion*

Instructor: DePuy, George  
(607) 798-2631  
Course Number: BT1992  
Department: General Studies  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 35  
Classroom: 35

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Small Systems

*Introduction to Solid State Physics*

Instructor: Stannard, C. R.  
(607) 798-2217  
Course Number: 284  
Department: Physics  
Program or Curriculum: Physics-Specialization in Solar Energy  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Topics Covered Extensively: Energy Conversion; Materials Research; Photovoltaics  
Number of Times Taught: 8  
Average Enrollment: 6

*Solar Energy*

Instructor: Stannard, C. R.  
(607) 798-2217  
Department: Physics  
Program or Curriculum: Physics-Specialization in Solar Energy  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 42  
Laboratory: 14

Topics Covered Extensively: Biomass Conversion; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation

*The Environment and Physical Principles*

Instructor: Stannard, C. R.  
(607) 798-2217

Course Number: 110  
Department: Physics  
Program or Curriculum: Physics-Specialization in Solar Energy  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 42  
Laboratory: 14  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology  
Number of Times Taught: 2  
Average Enrollment: 30

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SUNY AT BUFFALO MAIN CAMPUS  
BUFFALO, New York 14260  
(716) 831-9000

(2837)

## SOLAR RELATED COURSES

*Advanced Thermodynamics*

Instructor: Springer, R.  
(716) 831-5472  
Course Number: ENS 529  
Department: Engineering Science  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer  
Number of Times Taught: 10  
Average Enrollment: 10

*Direct Energy Conversion*

Instructor: Springer, R.  
(716) 831-5472  
Course Number: NUE 570  
Department: Engineering Science  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Conversion; Photovoltaics; Elec'l Generation, Small Scale  
Number of Times Taught: 10  
Average Enrollment: 8

*Electrophysics Laboratory I*

Instructor: Malone, D.  
(716) 636-2422  
Course Number: EE 557  
Department: Electrical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Laboratory: 45  
Topics Covered Extensively: Energy Conversion; Photovoltaics

**Electrophysics Laboratory II**

Instructor: Malone, D.  
(716) 636-2422  
Course Number: EE 558  
Department: Electrical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Laboratory: 45  
Topics Covered Extensively: Energy  
Conversion; Photovoltaics

**Energy Engineering I**

Instructor: Springer, R.  
(716) 831-5472  
Course Number: ENS 410/510  
Department: Engineering Science  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Storage  
Number of Times Taught: 5  
Average Enrollment: 25

**Energy Engineering II**

Instructor: Springer, R.  
(716) 831-5472  
Course Number: ENS 411/530  
Department: Engineering Science  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Laboratory: 60  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale  
Number of Times Taught: 5  
Average Enrollment: 10

**Energy Systems I**

Instructor: Gebhardt, B.  
(716) 636-2593  
Course Number: ME 431  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer;  
Elec'l Generation, Central

**Energy Systems II**

Instructor: Gebhardt, B.  
(716) 636-2593  
Course Number: ME 432  
Department: Mechanical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Energy

Conversion; Heat and Energy Transfer;  
Elec'l Generation, Central

**Environmental Heat & Mass Transfer**

Instructor: Gebhardt, B.  
(716) 636-2593  
Course Number: ME 568  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy  
Storage; Heat and Energy Transfer

**Heat and Mass Transport**

Instructor: Springer, R.  
(716) 831-5472  
Course Number: ENS 302  
Department: Engineering Science  
Credits: 4  
Student Level: Junior or Senior  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Heat and  
Energy Transfer  
Number of Times Taught: 15  
Average Enrollment: 25

**Heat Transfer I**

Instructor: Gebhardt, B.  
(716) 636-2593  
Course Number: ME 545  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar Collector Evaluation/Design

**Heat Transfer II**

Instructor: Gebhardt, B.  
(716) 636-2593  
Course Number: ME 546  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Solar Collector Evaluation/Design

**Physical Electronics**

Instructor: Malone, D.  
(716) 636-2422  
Course Number: EE350  
Department: Electrical Engineering  
Credits: 4  
Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Radiation Heat Transfer**

Instructor: Gebhardt, B.  
 (716) 636-2593  
 Course Number: ME 547  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer

**Semi-Conductor Electronics**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 464  
 Department: Electrical Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 60  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Semi-Conductors I**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 563  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 60  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Semi-Conductors II**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 564  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 60  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Solar Energy Engineering**

Instructor: Springer, R.  
 (716) 831-5472  
 Course Number: ENS 463/552  
 Department: Engineering Science  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 60  
 Topics Covered Extensively: Energy

Storage; Intro. to Solar Energy;  
 Passive Solar Technology;  
 Photovoltaics; Solar System Components;  
 Solar Economics; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Elec'l  
 Generation, Small Scale; Space Heating;  
 Space Cooling  
 Number of Times Taught: 5  
 Average Enrollment: 5

**Solid-State Electrical Engineering I**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 554  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Solid-State Electrical Engineering II**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 555  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Solid-State Optical Devices**

Instructor: Malone, D.  
 (716) 636-2422  
 Course Number: EE 656  
 Department: Electrical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Photovoltaics

**Transport Phenomena in Chem. Engin II**

Instructor: Ulbrecht, J.  
 (716) 636-2911  
 Course Number: CHE 510  
 Department: Chemical Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer  
 Number of Times Taught: 10

**Transport Phenomena in Chemical Engineering I**

Instructor: Ulbrecht, J.  
 (716) 636-2911  
 Course Number: CHE 509  
 Department: Chemical Engineering  
 Credits: 3

Student Level: College Graduate  
 Duration: 15 Weeks, 310 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer  
 Number of Times Taught: 10

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SUNY AT STONY BROOK MAIN CAM (2838)  
 STONY BROOK, New York 11794  
 (516) 246-5000

## SOLAR RELATED COURSES

*Energy and the Environment 110*  
 Instructor: Lee, L. L.  
 (516) 246-6102  
 Course Number: PHY 110  
 Department: Physics  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conversion; Heat and Energy  
 Transfer  
 Number of Times Taught: 10  
 Average Enrollment: 25

*Energy and the Environment 549*  
 Instructor: Fox, David  
 (516) 246-6106  
 Course Number: CEN 549  
 Department: Physics  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Intro. to Solar Energy  
 Number of Times Taught: 8  
 Average Enrollment: 45

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SUNY C. ENVIRONMENTAL SCI- FORESTRY (2851)  
 SYRACUSE, New York 13210  
 (315) 473-6611

## SOLAR RELATED COURSES

*Energy: Production and Conservation*  
 Instructor: Palmer, David G.  
 (315) 473-8786  
 Course Number: ERE611  
 Department: Environmental and  
 Resource Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Alternate

Energy Sources; Biomass Conversion;  
 Energy Conservation

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SUNY COLLEGE AT BROCKPORT (2841)  
 BROCKPORT, New York 14420  
 (716) 395-2211

## SOLAR RELATED COURSES

*Solar Energy*  
 Instructor: Greer, Ira W.  
 (716) 395-2636  
 Course Number: ESC 425  
 Department: Earth Sciences  
 Credits: 1  
 Student Level: Junior or Senior  
 Duration: 8 Weeks, 2.0 hrs per week  
 Contact Hours: 16  
 Classroom: 16  
 Topics Covered Extensively: Energy  
 Storage; Intro. to Solar Energy; Solar  
 System Components; Domestic Hot Water;  
 Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 50

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SUNY COLLEGE AT FREDONIA (2844)  
 FREDONIA, New York 14063  
 (716) 673-3111

## SOLAR RELATED COURSES

*Energy & Man*  
 Instructor: Connolly, John J.  
 (716) 673-3305  
 Course Number: PH103  
 Department: Physics  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation  
 Number of Times Taught: 12

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SUNY COLLEGE AT GENESEO (2845)  
 GENESEO, New York 14454  
 (716) 245-5211

## SOLAR RELATED COURSES

*Ener. Ed. Workshop/Solar Energy*  
 Instructor: Kinsey, K. F.  
 (716) 245-5283  
 Course Number: INT 979  
 Department: Physics  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 1 Week, 15.0 hrs per week  
 Contact Hours: 15



Number of Times Taught: 2  
Average Enrollment: 15

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SUNY COLLEGE AT OSWEGO  
OSWEGO, New York 13126  
(315) 341-2500

(2848)

#### SOLAR RELATED COURSES

*Ener. Tech., Eff. Res. Fuel Util.*  
Instructor: Hinrichs, R./Salvagin, C.  
Department: Phys/Earth Sci/Indus. Arts  
Credits: 3  
Student Level: All levels  
Duration: 6 Weeks, 6.7 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design

#### *Energy From Nature to Man*

Instructor: Hinrichs, R.  
(315) 341-2388  
Course Number: 105  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 8  
Average Enrollment: 40

#### *Energy Technologies - Efficient Res. Fuel Utilization*

Instructor: Schindler, Raymond  
(315) 341-4252  
Course Number: ES/315-515  
Department: Earth Sciences and Industrial Arts  
Credits: 3  
Student Level: All levels  
Duration: 6 Weeks, 6.5 hrs per week  
Contact Hours: 39  
Classroom: 39  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling;

Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 48

#### *Thermodynamics and Applications*

Instructor: Hinrichs, R.  
(315) 341-2388  
Course Number: 340  
Department: Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 30

#### *Using Solar Energy for Res. Heating*

Instructor: Gerbracht, Carlton  
(315) 341-3028  
Course Number: CE 380  
Department: Industrial Arts  
Student Level: College Graduate  
Duration: 4 Weeks, 1.5 hrs per week  
Contact Hours: 6  
Classroom: 6  
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Installation  
Number of Times Taught: 2  
Average Enrollment: 40

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SUNY COLLEGE PLATTSBURGH  
PLATTSBURGH, New York 12901  
(518) 564-2000

(2849)

#### PROGRAMS AND CURRICULA

*Environmental Sci. (Alternate Energy)*  
Degree: BA, Environmental Science  
Contact: Dawson, James C.  
(518) 564-2178

Students Taking or Completing Offering:  
Contractor, Do-it-yourself Homeowner, Solar Technician

#### SOLAR RELATED COURSES

##### *Energy Systems*

Instructor: Kissner, Fritz  
(518) 564-2178  
Course Number: ENV 309  
Department: Institute for Man and Environment  
Program or Curriculum: Environmental Sci. (Alternate Energy)  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;



# New York

# Solar Energy Research Institute

Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Solar System Components  
 Number of Times Taught: 6  
 Average Enrollment: 60

## Energy-Resources and Conservation

Instructor: Barnett, S. G.  
 (518) 564-3107  
 Course Number: GEL 385  
 Department: Earth Sciences  
 Program or Curriculum: Environmental Sci. (Alternate Energy)  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer  
 Number of Times Taught: 6  
 Average Enrollment: 40

## Residential Research Semester

Instructor: Dawson, James C.  
 (518) 564-2178  
 Course Number: ENV 313-318  
 Department: Institute for Man and Environment  
 Program or Curriculum: Environmental Sci. (Alternate Energy)  
 Credits: 15  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 45.0 hrs per week  
 Contact Hours: 675  
 Classroom: 75  
 Laboratory: 600  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Plumbing Techniques; Sheet Metal Techniques; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 55

## Solar Energy

Instructor: Szydlak, Paul  
 (518) 564-2648  
 Course Number: PHY 301  
 Department: Physics  
 Program or Curriculum: Environmental Sci. (Alternate Energy)  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer;

Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water  
 Number of Times Taught: 3  
 Average Enrollment: 15

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## SYRACUSE U. MAIN CAMPUS SYRACUSE, New York 13210 (315) 423-1870

(2882)

## SOLAR RELATED COURSES

### Solar Energy Applications

Instructor: LaGraff, John E.  
 (315) 423-4366  
 Course Number: MEE 587  
 Department: Mechanical and Aerospace Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating  
 Number of Times Taught: 3  
 Average Enrollment: 30

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## UNION COLLEGE SCHENECTADY, New York 12308 (518) 370-6000

(2889)

## SOLAR RELATED COURSES

### Solar Energy Analysis and Design

Instructor: Aubrey, William C.  
 (518) 370-6266  
 Course Number: ME 144  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.3 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

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US MERCHANT MARINE ACAD (2892)  
KINGS POINT, NEW YORK, New York 11024  
(516) 482-8200

## SOLAR RELATED COURSES

*Physics of Solar Energy*

Instructor: Drago, P.  
Course Number: M-36  
Department: Mathematics and Science  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 27  
Laboratory: 3  
Topics Covered Extensively: Heat and Energy Transfer; Solar Collector Evaluation/Design; Domestic Hot Water  
Number of Times Taught: 3  
Average Enrollment: 35

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VASSAR COLLEGE (2895)  
POUGHKEEPSIE, New York 12601  
(914) 452-7000

## SOLAR RELATED COURSES

*Environmental Physics*

Instructor: Stearns, R.L.  
Course Number: 102  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Number of Times Taught: 5  
Average Enrollment: 20

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## Community/Junior Colleges

ADIRONDACK CNTY COLLEGE (2860)  
GLENS FALLS, New York 12801  
(518) 793-9491

## PROGRAMS AND CURRICULA

*Seminar in Solar Energy*

Degree: Heating Certificate  
Contact: Harrington, Charles  
(518) 747-0274

Students Taking or Completing Offering:  
Solar Technician

## SOLAR RELATED COURSES

*Seminar in Solar Energy*

Instructor: Harrington, Charles  
(518) 747-0274  
Course Number: TECH 191  
Department: Occ. Ed.  
Program or Curriculum: Seminar in Solar Energy  
Credits: 3  
Student Level: All levels  
Duration: 17 Weeks, 6.0 hrs per week  
Contact Hours: 102  
Classroom: 51  
Laboratory: 51  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 5  
Average Enrollment: 25

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CAYUGA CO CNTY COLLEGE (2861)  
AUBURN, New York 13021  
(315) 253-7345

## PROGRAMS AND CURRICULA

*Solar Energy Technology*

Degree: Solar Energy Technology  
Contact: Komanecky, William  
(315) 253-7345

Students Taking or Completing Offering:  
Do-it-yourself Homeowner, Electrician, Plumber

## SOLAR RELATED COURSES

*Solar Heating Energy*

Instructor: Simkin, Robert  
(315) 364-8065  
Department: Science  
Program or Curriculum: Solar Energy Technology  
Credits: 1  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 23

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COLUMBIA-GREENE CC  
HUDSON, New York 12534  
(518) 828-4181

(6789)

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Drum, Donald A.  
(518) 828-4181  
Course Number: CE 005  
Department: Continuing Education  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
Home Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 71.

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CUNY NEW YORK CITY CC  
BROOKLYN, New York 11201  
(212) 643-4033

(2696)

## PROGRAMS AND CURRICULA

*Environmental Control Technology*

Degree: AD, Applied Science  
Contact: Lomask, Samuel  
(212) 962-0407

## SOLAR RELATED COURSES

*Environmental Design I*

Instructor: Farkas, Stanley  
(212) 239-1662  
Course Number: EC 110  
Department: Environmental Control  
Technology  
Program or  
Curriculum: Environmental Control  
Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conservation; Heat and Energy Transfer  
Number of Times Taught: 70  
Average Enrollment: 25

*Environmental Design Laboratory*

Instructor: Farkas, Stanley  
(212) 239-1662  
Course Number: EC111  
Department: Environmental Control  
Technology  
Program or  
Curriculum: Environmental Control  
Technology

Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 3  
Topics Covered Extensively: Plumbing  
Techniques  
Average Enrollment: 20

*Environmental System Design*

Instructor: Finger, A.  
(212) 239-1658  
Course Number: EC 430  
Department: Environmental Control  
Technology

Program or  
Curriculum: Environmental Control  
Technology

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 6.0 hrs per week  
Contact Hours: 90  
Classroom: 30  
Laboratory: 60  
Number of Times Taught: 16  
Average Enrollment: 18

*Hydronic Systems Design*

Instructor: Pita, Edward  
(212) 239-1662  
Course Number: EC220  
Department: Environmental Control  
Technology

Program or  
Curriculum: Environmental Control  
Technology

Credits: 3  
Student Level: High School Graduate  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 40  
Topics Covered Extensively: Heat and  
Energy Transfer  
Number of Times Taught: 24  
Average Enrollment: 25

*Refrigeration II*

Instructor: Lomask  
(212) 239-1696  
Course Number: EC410  
Department: Environmental Control  
Technology

Program or  
Curriculum: Environmental Control  
Technology  
Credits: 2  
Student Level: Junior or Senior  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer  
Number of Times Taught: 16  
Average Enrollment: 25

*Sum. Inst.-Ener. Ed. (Sec. Sch. Teach.)*

Instructor: Lomack, S.  
(212) 962-0407  
Department: Environmental Con.  
Tech. & Cont. Edu.

Student Level: College Graduate  
 Duration: 3 Weeks, 30.0 hrs per week  
 Contact Hours: 90  
 Classroom: 80  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology  
 Average Enrollment: 80

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GENESEE COMMUNITY COLLEGE (6782)  
 BATAVIA, New York 14020  
 (716) 343-0055

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Cole, Ronald J.  
 (716) 343-0055  
 Course Number: 192  
 Department: Math-Science  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 37  
 Laboratory: 23  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 1  
 Average Enrollment: 26

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MONAUK VLY CNTY COLLEGE (2871)  
 UTICA, New York 13501  
 (315) 792-5500

## PROGRAMS AND CURRICULA

*Solar Energy Technology*

Degree: Solar Energy Technology  
 Contact: Dunning, Francis  
 (315) 792-5514

## SOLAR RELATED COURSES

*Solar Energy I-Ener. and Ener. Cons.*

Instructor: Dunning, Francis  
 (315) 792-5514  
 Course Number: CC530  
 Department: Physics and Engineering Science  
 Program or Curriculum: Solar Energy Technology  
 Credits: 3  
 Student Level: All levels

Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Installation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 5  
 Average Enrollment: 30

*Solar Energy II (Installation)*

Instructor: Dunning, Francis  
 (315) 792-5514  
 Course Number: D2986  
 Department: Physics  
 Program or Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 30  
 Laboratory: 20  
 Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 30

*Solar III (Sol. Ener. Sys. Des. and Ana.)*

Instructor: Dunning, Francis  
 (315) 792-5514  
 Department: Physics  
 Program or Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 30  
 Laboratory: 20  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

*Solar IV (Alternate Energy Sources)*

Instructor: Dunning, Francis  
 (315) 792-5514  
 Department: Physics  
 Program or Curriculum: Solar Energy Technology



Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 30  
 Laboratory: 20  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Economics; Solar Law/Legislation; Process Heat; Agricultural; Process Heat, Industrial; Wind Power, Central Systems; Wind Power, Small Systems

**Solar System Fabrication I**

Instructor: Dunning, Francis  
 (315) 792-5514  
 Department: Physics  
 Program or Curriculum: Solar Energy Technology  
 Credits: 2  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 10  
 Laboratory: 20  
 Topics Covered Extensively: Appropriate Technology; Plumbing Techniques; Sheet Metal Techniques; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

**Solar System Fabrication II**

Instructor: Dunning, Francis  
 (315) 792-5514  
 Department: Physics  
 Program or Curriculum: Solar Energy Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 7.0 hrs per week  
 Contact Hours: 70  
 Classroom: 10  
 Laboratory: 60  
 Topics Covered Extensively: Appropriate Technology; Plumbing Techniques; Sheet Metal Techniques; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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MONROE COMMUNITY COLLEGE (2872)  
 ROCHESTER, New York 14623  
 (716) 442-9950

**SOLAR RELATED COURSES****Alternative Sources of Energy**

Instructor: Dowd, Janis  
 (716) 275-9318  
 Course Number: CEU 036-181

Department: Community Services  
 Student Level: All Levels  
 Duration: 8 Weeks, 1.0 hrs per week  
 Contact Hours: 8  
 Classroom: 8  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design  
 Number of Times Taught: 3  
 Average Enrollment: 40

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ORANGE CO CMTY COLLEGE (2876)  
 MIDDLETOWN, New York 10940  
 (914) 343-1121

**SOLAR RELATED COURSES****Design of Solar Energy Systems**

Instructor: Large, George  
 (914) 343-1121  
 Department: Physical Sciences  
 Student Level: College Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 25

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ROCKLAND CMTY COLLEGE (2877)  
 SUFFERN, New York 10901  
 (914) 356-4650

**SOLAR RELATED COURSES****Solar Energy - Its use in the 1970's**

Instructor: Cataldo, Ronald  
 (914) 356-1527  
 Course Number: CF 189  
 Department: Continuing Ed. and Community Service  
 Student Level: High School Graduate  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Number of Times Taught: 2  
 Average Enrollment: 20

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SUNY AGRI & TECH C CANTON  
CANTON, New York 13617  
(315) 386-7204

(2855)

## SOLAR RELATED COURSES:

*Practical Applications of Solar Energy*

Instructor: Emhof, Carson  
(315) 386-7218  
Course Number: 30302  
Department: Ener. Tech. Division  
Credits: 2  
Student Level: High School Graduate  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Number of Times Taught: 3  
Average Enrollment: 40

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SUNY AGRI & TECH C DELHI  
DELHI, New York 13753  
(607) 746-4111

(2857)

## PROGRAMS AND CURRICULA

*Construction Tech./Civil Tech.*

Degree: AD, Applied Science  
Contact: Duncan, George  
(607) 746-4205

Students Taking or Completing Offering:  
Mechanical or Electrical Contractor,  
Contractor, Other

## SOLAR RELATED COURSES

*General Chemistry*

Instructor: Onasch, Frederick  
(607) 746-4377  
Course Number: 9512  
Department: Physical Sciences  
Program or Curriculum: Construction Tech./  
Civil Tech.  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 5.0 hrs per week  
Contact Hours: 75  
Classroom: 30  
Laboratory: 45

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Materials Research;  
Photovoltaics

*General Chemistry 9513*

Instructor: Onasch, Frederick  
(607) 746-4377  
Course Number: 9513  
Department: Physical Sciences  
Program or Curriculum: Construction Tech./  
Civil Tech.  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 5.0 hrs per week

Contact Hours: 75  
Classroom: 30  
Laboratory: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Materials Research;  
Photovoltaics

*General Physics*

Instructor: Vetter, Willard  
(607) 746-4374  
Course Number: 9521  
Department: Physical Sciences  
Program or Curriculum: Construction Tech./  
Civil Tech.  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy  
Average Enrollment: 100

*General Physics 9522*

Instructor: Vetter, Willard  
(607) 746-4374  
Course Number: 9522  
Department: Physical Sciences  
Program or Curriculum: Construction Tech./  
Civil Tech.  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy  
Average Enrollment: 100

*Mechanical Equipment for Buildings*

Instructor: Hampel, John  
(607) 746-4386  
Course Number: 3741  
Department: Construction Technology  
Program or Curriculum: Construction Tech./  
Civil Tech.  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 30  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Plumbing Techniques

Number of Times Taught: 20  
Average Enrollment: 6

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**Thermodynamics and Heating**

Instructor: Hampel, John  
(607) 746-6386

Course Number: 3711  
Department: Construction Tech  
Program or Curriculum: Construction Tech  
Civil Tech.

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Classroom: 45  
Laboratory: 30

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques

Number of Times Taught: 20  
Average Enrollment: 65

**Water Resources**

Instructor: Singer, Darrell  
(607) 746-4391

Course Number: 3554  
Department: Civil Technology  
Program or Curriculum: Construction Tech  
Civil Tech.

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 6.0 hrs per week  
Contact Hours: 90  
Classroom: 30  
Laboratory: 60

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage

Number of Times Taught: 20  
Average Enrollment: 30

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TOMPKINS-CORTLAND CC  
DRYDEN, New York 13053  
(607) 844-8211

(6788)

**SOLAR RELATED COURSES****Home Use of the Sun's Energy**

Instructor: Klein, Gary  
(607) 844-8211

Course Number: CEET 708  
Department: Lifelong Learning  
Student Level: All Levels  
Duration: 6 Weeks, 3.0 hrs per week  
Contact Hours: 24

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Systems Installation

Number of Times Taught: 3  
Average Enrollment: 14

WESTCHESTER CMTY COLLEGE  
VALHALLA, New York 10595  
(914) 347-6800

(2881)

**SOLAR RELATED COURSES****Alternate Energy Resources & Lab.**

Instructor: Lee, Diana  
(914) 347-6930

Course Number: 190 172-3  
Department: Physical Science  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 5.0 hrs per week  
Contact Hours: 75  
Classroom: 45  
Laboratory: 30

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components

**Solar Heating and Energy Cons.**

Instructor: Wojan, C.  
(914) 347-6930

Department: Mechanical Technology  
Student Level: All Levels  
Duration: 6 Weeks, 2.0 hrs per week  
Contact Hours: 12  
Classroom: 12

Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 1  
Average Enrollment: 13

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**Other Educational Institutions**

ALAA PROFESSIONAL STUDY SERIES (90500)  
1290 Avenue of the Americas  
NY, New York 10019

**SOLAR RELATED COURSES****\*Wind Engineering**

Instructor: Sforza, Pasquale  
(212) 581-4308

Duration: 280 Days

Topics Covered Extensively: Wind Power,  
Central Systems; Wind Power, Small  
Systems

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# AMERICAN SOCIETY OF MECHANICAL ENGINEERING

(90510)

345 E. 47th St.  
NY, New York 10017  
(212) 644-7743

## PROGRAMS AND CURRICULA

\*Professional Development  
(212) 644-7743

## SOLAR RELATED COURSES

\*Short Courses  
Program on

Curriculum:

\*Professional  
Development

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# BROOME-DELAWARE-TIOGA BOLES

(90450)

Ed. Center, Upper Glenwood Rd.  
Binghamton, New York 13905

## SOLAR RELATED COURSES

\*Solar Training in Electronics Course

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# MASSAU COUNTY BOLES

(90460)

Valentines Rd. & The Plains Rd.  
Westbury, New York 11590

## SOLAR RELATED COURSES

\*Sol. Ener. Tech. in Heat, A/C Courses

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# NY INST TECHN MAIN CAMPUS

(4804)

OLD WESTBURY, New York 11568  
(516) 686-7516

## SOLAR RELATED COURSES

### Special Studies in Architecture

Instructor: Wilkie, Douglas  
(516) 759-9050

Course Number: 6204

Department: Architecture

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Topics Covered Extensively: Appropriate  
Technology; Biomass Conversion; Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Plumbing

Techniques; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 30

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# SARATOGA-WARREN-BOCES-MYERS OCC. CHT (90470)

Henning Rd.  
Saratoga Springs, New York 12866

## SOLAR RELATED COURSES

\*Sol. Ener. Tech. in Heat, A/C Courses

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## Colleges/Universities

**APPALACHIAN ST UNIVERSITY**  
 BOONE, North Carolina 28608  
 (704) 262-2000

## SOLAR RELATED COURSES

*Solar Energy for Homes*

Instructor: Mamola, Earl C.  
 (704) 262-3090  
 Course Number: 3530  
 Department: Physics  
 Credits: 1  
 Student Level: All levels  
 Duration: 8 Weeks, 2.0 hrs per week  
 Contact Hours: 16  
 Classroom: 16  
 Topics Covered Extensively: Energy  
 Conservation; Energy Conversion; Energy  
 Storage; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Systems Design;  
 Domestic Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 90

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**DUKE UNIVERSITY**  
 DURHAM, North Carolina 27706  
 (919) 684-8111

## PROGRAMS AND CURRICULA

*Energy Conservation*

Degree: MS, Civil, Electrical,  
 Mechanical Engineering  
 Contact: Chaddock, Jack B.  
 (919) 684-2832

## SOLAR RELATED COURSES

*Materials Science and Energy Technology*

Instructor: Shepard, Marion L.  
 (919) 684-2832  
 Course Number: ME 113  
 Department: Engineering  
 Program or  
 Curriculum: Energy Conservation  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Intro. to Solar Energy;  
 Materials Research; Photovoltaics  
 Number of Times Taught: 4  
 Average Enrollment: 12

*Solar Electric Power Systems*

Instructor: Wang, Paul P.  
 (919) 684-3123  
 Course Number: EE 155  
 Department: Engineering  
 Program or  
 Curriculum: Energy Conservation

Credits: 3

Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42

Topics Covered Extensively: Intro. to  
 Solar Energy; Photovoltaics; Solar  
 System Components; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Elec'l Generation, Central; Elec'l  
 Generation, Small Scale; Wind Power,  
 Central Systems; Wind Power, Small  
 Systems

Number of Times Taught: 2  
 Average Enrollment: 7

*Solar Energy Thermal Processes*

Instructor: Chaddock, Jack B.  
 (919) 684-2832  
 Course Number: ME 254  
 Department: Engineering  
 Program or  
 Curriculum: Energy Conservation  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Passive Solar Technology;  
 Solar System Components; Solar  
 Economics; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 10

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**EAST CAROLINA UNIVERSITY**  
 GREENVILLE, North Carolina 27834  
 (919) 757-6212

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Adler, Carl/ Byrd,  
 William  
 (919) 757-6739  
 Course Number: 5640  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 4.0 hrs per week  
 Contact Hours: 56  
 Classroom: 28  
 Laboratory: 28  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Photovoltaics;  
 Solar System Components; Solar  
 Economics; Solar Home Construction;  
 Solar Collector Evaluation/Design;  
 Solar Systems Design; Domestic Hot  
 Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 20



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UNC AGRL & TECH STATE U (2905)  
GREENSBORO, North Carolina 27411  
(919) 379-7500

## SOLAR-RELATED COURSES

## Energy Conversion

Instructor: Klett, D. E.  
(919) 379-7620  
Course Number: 563  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 15

## Solid State Energy Conversion

Instructor: Stefanakos, E. K.  
(919) 379-7761  
Course Number: 608  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Intro. to Solar Energy; Photovoltaics; Solar Systems Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 10

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NC AT ASHEVILLE, U OF (2907)  
ASHEVILLE, North Carolina 28804  
(704) 258-0200

## SOLAR RELATED COURSES

## Design of Solar Heated Homes

Instructor: Cole, Robert S.  
(704) 258-0200  
Course Number: PHY 272  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 32  
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction;

Solar Collector Evaluation/Design;  
Solar Systems Design; Domestic Hot Water

Number of Times Taught: 4  
Average Enrollment: 60

## Passive Solar Systems

Instructor: Cole, Robert S.  
(704) 258-0200  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction

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NC AT CHARLOTTE, U OF (2975)  
CHARLOTTE, North Carolina 28223  
(704) 597-2000

## SOLAR RELATED COURSES

## Energy Conversion I

(704) 597-2301  
Course Number: ESM412  
Department: Engineering  
Topics Covered Extensively: Energy Conservation

## Energy Conversion II

(704) 597-2301  
Course Number: ESM413  
Department: Engineering  
Topics Covered Extensively: Energy Conversion; Photovoltaics

## Heating &amp; Air Conditioning

(704) 597-2301  
Course Number: MET441  
Topics Covered Extensively: Solar System Components; Space Heating; Space Cooling

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NC AT GREENSBORO, U OF (2976)  
GREENSBORO, North Carolina 27412  
(919) 379-5000

## SOLAR RELATED COURSES

## Energy Options and the Environment

Instructor: Meisner, Gerald W.  
(919) 379-5330  
Course Number: PHYS. 334  
Department: Arts and Sciences/Physics  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;



## Passive Solar Technology

Number of Times Taught: 10

Average Enrollment: 25

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## NC STATE U RALEIGH

(2972)

RALEIGH, North Carolina 27607

(919) 737-2011

## SOLAR RELATED COURSES

## Energy Conservation Techniques

Instructor: Barnes, Donald

(919) 737-2203

Course Number: ARC 592-G

Department: Architecture

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Energy Conservation; Energy Storage; Passive

Solar Technology; Solar Home

Construction; Space Heating

Number of Times Taught: 1

Average Enrollment: 20

## Energy Conversion in Bio. Systems

Instructor: Suggs, Charles W.

(919) 737-3101

Course Number: BAE 303

Department: Biological and

Agricultural

Engineering

Credits: 2

Student Level: Junior or Senior

Duration: 15 Weeks, 2.0 hrs per week

Contact Hours: 30

Classroom: 30

Average Enrollment: 18

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## WSTN CAROLINA UNIVERSITY

(2981)

CULLOWHEE, North Carolina 28723

(704) 293-7211

## PROGRAMS AND CURRICULA

## Faculty Dev. in Ener. for Ind. Eds.

Degree: MS, BS,

Contact: Cook, J./ Dalley, R.

(704) 227-7368

Students Taking or Completing Offering:

Educator

## SOLAR RELATED COURSES

## Faculty Dev. in Ener. for Ind. Eds.

Instructor: Cook, J./ Dalley, R.

(704) 227-7368

Department: Industrial Education &amp; Technology

Program or

Curriculum: Faculty Dev. in Ener. for Ind. Eds.

Credits: 3

Student Level: College Graduate

Duration: 1 Weeks, 40.0 hrs per week

Contact Hours: 40

Classroom: 30

Laboratory: 10

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water

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## Community/Junior Colleges

## CARTERET TECHNICAL INST

(8081)

MOREHEAD CITY, North Carolina 28557

(919) 726-2811

## PROGRAMS AND CURRICULA

## Solar Energy: Fundamentals and Construction

Degree: Institute Certificate

Contact: Nelson, J. Lenn

(919) 726-1171

Students Taking or Completing Offering:

Do-it-yourself Homeowner

## SOLAR RELATED COURSES

## Solar Energy: Fundamentals and Construction

Instructor: Whitehurst, Brooks

(919) 726-1171

Course Number: FIS 30310

Department: Community Services

Program or

Curriculum: Fundamentals and

Construction

Student Level: High School Graduate

Duration: 9 Weeks, 3.0 hrs per week

Contact Hours: 27

Classroom: 9

Laboratory: 18

Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water

Number of Times Taught: 5

Average Enrollment: 18

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**CEN PIEDMONT CITY COLLEGE**  
**CHARLOTTE, North Carolina 28204**  
 (704) 373-6566

(2915)

**SOLAR RELATED COURSES****Applied Solar Energy**

Instructor: Farkas, Al  
 (704) 373-6633  
 Course Number: ARC-4310  
 Department: Technology-Arch.Tech.Pr  
 og.  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Energy Storage; Heat and Energy  
 Transfer; Intro. to Solar Energy;  
 Passive Solar Technology;  
 Photovoltaics; Solar System Components;  
 Solar Economics; Solar Collector  
 Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 15  
 Average Enrollment: 12

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**COASTAL CAROLINA CC**  
**JACKSONVILLE, North Carolina 28540**  
 (919) 455-1221

(8084)

**PROGRAMS AND CURRICULA****Heat Pumps and Electives**

Degree: Heating, Air Conditioning and  
 Refrigeration  
 Contact: Rawls, Preston C.  
 (919) 455-1221  
 Students Taking or Completing Offering:  
 Mechanical or Electrical Contractor,  
 Do-it-yourself Homeowner

**SOLAR RELATED COURSES****Heat Pumps and Electives**

Instructor: Hewitt, Robert L.  
 (919) 455-1221  
 Course Number: AHR 1130  
 Department: Occupational  
 Program or  
 Curriculum: Heat Pumps and  
 Electives  
 Student Level: All levels  
 Duration: 11 Weeks, 9.0 hrs per week  
 Contact Hours: 99  
 Classroom: 33  
 Laboratory: 66  
 Topics Covered Extensively: Intro. to  
 Solar Energy; Sheet Metal Techniques;  
 Domestic Hot Water; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 12

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**GASTON COLLEGE**  
**DALLAS, North Carolina 28034**  
 (704) 922-3136

(2973)

**SOLAR RELATED COURSES****Practical Solar Energy**

Instructor: McArver, Fred  
 (704) 922-3136  
 Department: Continuing Education  
 Student Level: High School Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Number of Times Taught: 3  
 Average Enrollment: 20

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**GUILFORD TECHNICAL INST**  
**JAMESTOWN, North Carolina 27282**  
 (919) 292-1101

(4838)

**SOLAR RELATED COURSES****Solar Hot Water Systems**

Instructor: Eller, Wayne C.  
 (919) 292-1101  
 Course Number: 3EBF  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 25  
 Laboratory: 5  
 Topics Covered Extensively: Energy  
 Conservation; Energy Storage; Heat and  
 Energy Transfer; Intro. to Solar  
 Energy; Plumbing Techniques; Solar  
 Collector Evaluation/Design; Domestic  
 Hot Water  
 Number of Times Taught: 3  
 Average Enrollment: 18

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**JAMES SPRUNT INSTITUTE**  
**KENANSVILLE, North Carolina 28349**  
 (919) 296-1341

(7687)

**SOLAR RELATED COURSES****Building and Trades**

Instructor: Smith, Prentice  
 (919) 296-1341  
 Department: Vocational Programs  
 Credits: 5  
 Student Level: High School Graduate  
 Duration: 11 Weeks, 5.0 hrs per week  
 Contact Hours: 55  
 Classroom: 18  
 Laboratory: 37  
 Number of Times Taught: 4  
 Average Enrollment: 45

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**SAMPSON TECHNICAL INST**  
CLINTON, North Carolina 28328  
(919) 592-8081

(7892)

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## PROGRAMS AND CURRICULA

*Air Conditioning, Heating, and Refrig.*

Degree: Diploma  
Contact: Peacock, Sherwood  
(919) 592-8081

Students Taking or Completing Offering:  
Installer-Commercial (Solar System),  
Solar Technician

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**STANLY TECHNICAL INST**  
ALBEMARLE, North Carolina 28001  
(704) 982-0121

(11194)

## SOLAR RELATED COURSES

*Solar Energy Systems*

Instructor: Griffin, James E.  
(704) 463-5820

Course Number: W970  
Student Level: All levels  
Number of Times Taught: 2  
Average Enrollment: 9

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**TRI-COUNTY TECHNICAL INST**  
MURPHY, North Carolina 28906  
(704) 837-6810

(9430)

## SOLAR RELATED COURSES

*Solar Energy*

Department: Continuing Ed.  
Student Level: All levels  
Contact Hours: 18  
Number of Times Taught: 2  
Average Enrollment: 15

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**VANCE-GRANVILLE COLLEGE**  
HENDERSON, North Carolina 27536  
(919) 492-2061

(9903)

## SOLAR RELATED COURSES

*Carpentry*

Instructor: Norwood, Mike  
(919) 492-3371  
Course Number: 3001 W374  
Department: Occupational Education  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion;  
Plumbing Techniques  
Number of Times Taught: 2  
Average Enrollment: 20

## Vocational/Technical Colleges

**CAPE FEAR TECHNICAL INST** (5320)  
WILMINGTON, North Carolina 28401  
(919) 343-0481

## PROGRAMS AND CURRICULA

*General Occupational Technologies*

Degree: AD, General Occupational  
Technologies  
Contact: Stiles, W. O./Averette, R.  
(919) 343-0481

## SOLAR RELATED COURSES

*Introduction to Energy Resources*

Instructor: Bordeaux, Ralph  
(919) 343-0481  
Course Number: T-EGY101  
Department: Engineering Division  
Program or Curriculum: General Occupational  
Technologies  
Credits: 3  
Student Level: All levels  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Storage; Intro.  
to Solar Energy  
Number of Times Taught: 2  
Average Enrollment: 25

*Introduction to Solar Energy Systems (Elect.)*

Instructor: Bordeaux, Ralph  
(919) 343-0481  
Course Number: T-EGY103  
Department: Engineering  
Program or Curriculum: General Occupational  
Technologies  
Credits: 5  
Student Level: All levels  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 44  
Laboratory: 22  
Topics Covered Extensively: Appropriate  
Technology; Photovoltaics; Solar Energy  
Policy Development; Elec'l Generation,  
Small Scale; Wind Power, Small Systems

*Introduction to Solar Energy Systems (Thermal)*

Instructor: Stiles, Warren O.  
(919) 256-3146  
Course Number: T-EGY-102  
Department: G.O.T./Evening  
Program or Curriculum: General Occupational  
Technologies

Credits: 5  
 Student Level: All levels  
 Duration: 11 Weeks, 6.0 hrs per week  
 Contact Hours: 66  
 Classroom: 44  
 Laboratory: 22  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Heat and Energy Transfer; Intro. to  
 Solar Energy; Solar Economics; Solar  
 Collector Evaluation/Design; Domestic  
 Hot Water

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CLEVELAND CO TECH INST (8082)  
 SHELBY, North Carolina 28150  
 (704) 482-8351

## SOLAR RELATED COURSES

Resource Conservation  
 Instructor: Smith, Iverson  
 (704) 482-8351  
 Department: Industrial,  
 Environmental Sciences  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 11 Weeks, 5.0 hrs per week  
 Contact Hours: 55  
 Classroom: 32  
 Laboratory: 33

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PANLICO TECHNICAL INST (7031)  
 GRANTSBORO, North Carolina 28529  
 (919) 249-1851

## PROGRAMS AND CURRICULA

Solar Energy  
 Degree: Certificate  
 Contact: Prescott, Matthew  
 (919) 249-1851  
 Students Taking or Completing Offering:  
 Educator, Contractor, Do-it-yourself  
 Homeowner, Installer-Residential (Solar  
 System), Solar Technician

## SOLAR RELATED COURSES

Solar Energy  
 Instructor: Whitehurst, Brooks  
 (919) 249-1851  
 Department: Continuing Ed.  
 Program or  
 Curriculum: Solar Energy  
 Student Level: All levels  
 Duration: 4 Weeks, 11.0 hrs per week  
 Contact Hours: 44  
 Classroom: 11  
 Laboratory: 33  
 Topics Covered Extensively: Solar  
 Systems Installation; Domestic Hot  
 Water  
 Number of Times Taught: 2

Average Enrollment: 18

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RANDOLPH TECHNICAL INST (5447)  
 ASHEBORO, North Carolina 27203  
 (919) 629-1471

## SOLAR RELATED COURSES

Introduction to Solar Energy  
 Instructor: Hicks, Eugene B.  
 (919) 629-1471  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 5 Weeks, 3.0 hrs per week  
 Contact Hours: 15  
 Classroom: 15

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SOUTHWESTERN TECH INST (8466)  
 SYLVA, North Carolina 28779  
 (704) 586-4091

## PROGRAMS AND CURRICULA

Solar Energy Systems-Res. and Comm.  
 Construction  
 Degree: Certificate of Completion  
 Contact: Liming, Glenn  
 (704) 586-4091  
 Students Taking or Completing Offering:  
 Installer-Residential (Solar System),  
 Installer-Commercial (Solar System),  
 Solar Technician

## SOLAR RELATED COURSES

Introduction to Solar Concepts  
 Instructor: Liming, Glenn  
 (704) 586-4091  
 Course Number: CAR 1120  
 Department: Industrial/Vocational  
 Program or  
 Curriculum: Solar Energy  
 Systems-Res. and Comm.  
 Construction  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 11 Weeks, 6.0 hrs per week  
 Contact Hours: 66  
 Classroom: 33  
 Laboratory: 33  
 Number of Times Taught: 1  
 Average Enrollment: 8

Solar Collector  
 Instructor: Liming, Glenn  
 (704) 586-4091  
 Course Number: CAR 1121  
 Department: Industrial/Vocational  
 Program or  
 Curriculum: Solar Energy  
 Systems-Res. and Comm.  
 Construction  
 Credits: 6  
 Student Level: Freshman or Sophomore

Duration: 11 Weeks, 13.0 hrs per week  
Contact Hours: 143  
Classroom: 33  
Laboratory: 110  
Topics Covered Extensively: Solar  
Collector Evaluation/Design  
Number of Times Taught: 1  
Average Enrollment: 8

**Solar Energy Heating Systems**

Instructor: Liming, Glenn  
(704) 586-4091  
Course Number: CAR 1102  
Department: Industrial/Vocational  
Program or  
Curriculum: Solar Energy  
Systems-Res. and Comm.  
Construction

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Topics Covered Extensively: Intro. to  
Solar Energy; Swimming Pool Heating /  
Number of Times Taught: 1  
Average Enrollment: 8

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TECH INST OF ALAMANCE (5463)  
HAW RIVER, North Carolina 27258  
(919) 578-2002

**SOLAR RELATED COURSES****Current Trends**

Instructor: Payne, David M.  
(919) 573-2002  
Course Number: AHR 233  
Department: Air Conditioning and  
Refrigeration  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 22  
Laboratory: 22  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Plumbing  
Techniques; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 3  
Average Enrollment: 16

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**Colleges/Universities**

**MAYVILLE STATE COLLEGE** (2993)  
MAYVILLE, North Dakota 58257  
(701) 786-2301

**SOLAR RELATED COURSES***Energy and the Environment*

Instructor: Carlson, Kenneth T.  
(701) 786-2301  
Course Number: 322  
Department: Science  
Credits: 4  
Student Level: Junior or Senior  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Number of Times Taught: 1  
Average Enrollment: 12

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**ND STATE U MAIN CAMPUS** (9265)  
FARGO, North Dakota 58102  
(701) 237-8011

**SOLAR RELATED COURSES***\*Energy Conservation in Bldgs.*

Department: Eng'r and Architecture  
Student Level: Junior or Senior

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**Community/Junior Colleges**

**BISMARCK JUNIOR COLLEGE** (2988)  
BISMARCK, North Dakota 58501  
(701) 223-4500

**PROGRAMS AND CURRICULA***Solar Heating*

Degree: Certificate of Completion  
Contact: McKinney, David  
(701) 255-0566  
Students Taking or Completing Offering:  
Plumber, Sheet Metal Worker

**SOLAR RELATED COURSES***Solar Energy*

Instructor: McKinney, David  
(701) 255-0566  
Department: Heating, Refrigeration,  
and Air Conditioning  
Program or  
Curriculum: Solar Heating  
Credits: 8  
Student Level: Freshman or Sophomore  
Duration: 8 Weeks, 32.0 hrs per week  
Contact Hours: 256  
Classroom: 63

Laboratory: 193

Topics Covered Extensively: Plumbing  
Techniques; Sheet Metal Techniques;  
Solar Home Construction; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Solar  
Systems Testing and Evaluation;  
Domestic Hot Water; Space Heating;  
Space Cooling

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**Vocational/Technical Colleges**

**ND STATE SCHOOL SCIENCE** (2996)  
WAPETON, North Dakota 58075  
(701) 671-1130

**PROGRAMS AND CURRICULA***Environmental Systems Design*

Degree: Certificate, Diploma,  
Contact: Whitcomb, Larry  
(701) 671-2529

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Trade Specialty, Plumber; Sheet Metal  
Worker

**SOLAR RELATED COURSES***Systems and Equipment*

Instructor: Whitcomb, Larry  
(701) 671-2529  
Course Number: ESD 203  
Department: Environmental Systems  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively: Alternate  
Energy Sources; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Plumbing Techniques; Sheet Metal  
Techniques; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Installation; Solar  
Systems Maintenance  
Number of Times Taught: 1  
Average Enrollment: 25

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## Colleges/Universities

**AIR FORCE INST TECHNOLOGY** (3009)  
DAYTON, Ohio 45433  
(513) 255-2079

## SOLAR RELATED COURSES

*Contemporary Energy Applications*

Instructor: Stan. Rebert  
(513) 255-4552  
Course Number: 462  
Department: Engineering Technology  
Credits: 3  
Student Level: College Graduate  
Duration: 1 Week, 35.0 hrs per week  
Contact Hours: 35  
Number of Times Taught: 1  
Average Enrollment: 30

*Radiation Heat Transfer*

Instructor: Hitchcock, James E.  
(513) 255-3069  
Course Number: ME 6.73  
Department: Aero and Astro. School  
of Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Heat and  
Energy Transfer  
Number of Times Taught: 15  
Average Enrollment: 8

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**AKRON MAIN CAMPUS, U OF** (3123)  
AKRON, Ohio 44325  
(216) 375-7111

## SOLAR RELATED COURSES

*Energy Conversion*

Instructor: Gross, Richard J.  
(216) 375-7736  
Course Number: 4500:415  
Department: Engineering/ Mechanical  
Engr.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conversion; Intro. to Solar Energy;  
Solar System Components; Solar  
Collector Evaluation; Design; Solar  
Systems Design; Solar Systems  
Installation; Wind Power, Central  
Systems; Wind Power, Small Systems  
Number of Times Taught: 7  
Average Enrollment: 20

*Physics, Energy and Man*

Instructor: Wilson, C.W.  
(216) 375-7079  
Course Number: 4500:141

Department: Physics/Arts and  
Sciences  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy  
Number of Times Taught: 7  
Average Enrollment: 35

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**ANTIOCH COLLEGE** (8795)  
YELLOW SPRINGS, Ohio 45387  
(513) 767-1424

## SOLAR RELATED COURSES

*Independent Study in Solar Energy*

Instructor: Taylor, Charles  
(513) 767-7331  
Course Number: P 196  
Department: Sci. Inst.-Phys.,  
Envir. Studies  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 14.0 hrs per week  
Contact Hours: 140  
Classroom: 20  
Laboratory: 40  
Topics Covered Extensively: Intro. to  
Solar Energy; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 2  
Average Enrollment: 5

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**CINCINNATI MAIN CAM, U OF** (3125)  
CINCINNATI, Ohio 45221  
(513) 475-8000

## PROGRAMS AND CURRICULA

*Mechanical Engineering Technology*

Degree: BS, Mech. Eng'n Tech.  
Contact: Garrett, Donald W.  
(513) 475-6541  
Students Taking or Completing Offerings:  
Solar Engineer, Installer-Residential  
(Solar System), Installer-Commercial  
(Solar System)

## SOLAR-RELATED COURSES

*B.T. Lab on Alt. Energy Systems*

Instructor: Smith, David Lee  
(513) 475-6426  
Course Number: 23-300-413  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Laboratory: 40

Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Wind Power, Small Systems

Number of Times Taught: 5  
Average Enrollment: 8

#### *E.T. Seminar on the Energy Crisis*

Instructor: Smith, David Lee  
(513) 475-6426  
Course Number: 23-300-411  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Solar Economics

Number of Times Taught: 8  
Average Enrollment: 10

#### *E.T. Studio on Ener. Conscious Des.*

Instructor: Smith, David Lee  
(513) 475-6426  
Course Number: 23-300-510  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 9.0 hrs per week  
Contact Hours: 90  
Laboratory: 90

Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

Number of Times Taught: 12  
Average Enrollment: 12

#### *Solar Heating and Cooling*

Instructor: Garrett, Donald W.  
(513) 475-6541  
Course Number: 32-195-467  
Department: Applied Science/Mechanical Engr. Tech.  
Program or Curriculum: Mechanical Engineering Technology  
Credits: 4  
Student Level: Junior or Senior  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 44

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 1  
Average Enrollment: 35

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DAYTON, UNIVERSITY OF  
DAYTON, Ohio 45469  
(513) 229-0123

(3127)

#### PROGRAMS AND CURRICULA

##### *Energy Conversion*

Degree: MS, BS, Mechanical Engineering

Contact: Smith, Howard E.  
(513) 229-2835

Students Taking or Completing Offering:  
Educator, Researcher, Other

#### SOLAR RELATED COURSES

##### *Direct Energy Conversion*

Instructor: Chuang, Henry N.  
(513) 229-2835

Course Number: MEE 514  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion  
Credits: 3

Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Photovoltaics; Elec'l Generation, Central; Elec'l Generation, Small Scale

Number of Times Taught: 5  
Average Enrollment: 10

##### *Energy Conversion Systems*

Instructor: Chuang, Henry N.  
(513) 229-2835

Course Number: MEE 402  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion  
Credits: 3

Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy

Number of Times Taught: 4  
Average Enrollment: 25

##### *Solar Heating Analysis*

Instructor: Chuang, Henry N.  
(513) 229-2835

Course Number: MEE 567  
Department: Mechanical Engineering  
Program or Curriculum: Energy Conversion

Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 4.0 hrs per week  
Contact Hours: 48  
Classroom: 45  
Laboratory: 3

Topics Covered Extensively: Energy

Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 12

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#### DEFIANCE COLLEGE

DEFIANCE, Ohio 43512  
(419) 784-4010

(3041)

#### SOLAR RELATED COURSES

##### Energy Alternatives

Instructor: Miller, Harry G.  
(419) 784-4010  
Course Number: 11-50  
Department: Physics & Mathematics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 4 Weeks, 15.0 hrs per week  
Contact Hours: 60  
Classroom: 50  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion  
Number of Times Taught: 4  
Average Enrollment: 12

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#### KENT STATE U MAIN CAMPUS

KENT, Ohio 44342  
(216) 672-2121

(3051)

#### PROGRAMS AND CURRICULA

##### Architects & Energy

Contact: Kremers  
(216) 672-2789  
Students Taking or Completing Offering:  
Architect, Do-it-yourself Homeowner

#### SOLAR RELATED COURSES

##### Architects & Energy 62598

Instructor: Kremers  
(216) 672-2789  
Course Number: 62598  
Department: Architecture  
Program or  
Curriculum: Architects & Energy  
Credits: 3  
Student Level: College Graduate  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Storage;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Marketing/Market  
Analysis; Passive Solar Technology;  
Solar System Components; Solar  
Economics; Solar Home Construction;  
Solar Systems Design; Domestic Hot

Water; Space Heating; Space Cooling;  
Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 10

##### Energy Conversion Utilization

Instructor: Loughridge, R./ Lees,  
J./ Phillips, J.  
(216) 672-2892  
Course Number: 20001  
Department: Technology  
Credits: 3  
Student Level: All Levels  
Duration: 10 Weeks, 6.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30  
Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer;  
Process Heat, Industrial; Space  
Heating; Space Cooling

##### Power Technology

Instructor: Lees, James  
(216) 672-2892  
Course Number: 31032  
Department: Technology  
Credits: 5  
Student Level: All levels  
Duration: 10 Weeks, 10.0 hrs per week  
Contact Hours: 100  
Classroom: 50  
Laboratory: 50  
Number of Times Taught: 21  
Average Enrollment: 20

##### Solar Energy Today

Instructor: Kremers  
(216) 672-2789  
Course Number: CONT.ED.  
Department: Architecture  
Program or  
Curriculum: Architects & Energy  
Credits: 2  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Storage;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Passive Solar Technology;  
Solar Economics; Solar Home  
Construction; Solar Systems Design;  
Domestic Hot Water; Space Heating; Wind  
Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 25

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**OHIO NORTHERN UNIVERSITY (3089)**ADA, Ohio 45810  
(419) 634-9921**SOLAR RELATED COURSES****Solar Energy Engineering**

Instructor: Farrington, Frank  
(419) 634-9921  
Course Number: 204590.03  
Department: Mech. Engr.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 26

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**OHIO STATE U MAIN CAMPUS (6883)**COLUMBUS, Ohio 43210  
(614) 422-6446**SOLAR RELATED COURSES****Intro. To Agricultural Engin. Design**

Instructor: Bondurant, Byron L.  
(614) 422-6131  
Course Number: AE 223  
Department: Agricultural Engineering  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 10  
Laboratory: 30  
Number of Times Taught: 9  
Average Enrollment: 15

**Solar Energy Thermal Systems**

Instructor: Sepsy, C. F.  
Course Number: ME 614  
Department: Mech. Engr.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water  
Number of Times Taught: 2  
Average Enrollment: 35

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**OHIO STATE U MANSFIELD BR (3093)**MANSFIELD, Ohio 44906  
(419) 747-6561**SOLAR RELATED COURSES****Solar Energy**

Instructor: Clark, D. L.  
(419) 755-4011  
Department: Continuing Education  
Student Level: All levels  
Duration: 4 Weeks, 2.5 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating  
Average Enrollment: 65

**Wind Energy**

Instructor: Clark, D. L.  
(419) 755-4011  
Department: Continuing Education  
Student Level: All levels  
Duration: 4 Weeks, 2.5 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating; Wind Power, Small Systems  
Average Enrollment: 45

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**TOLEDO, UNIVERSITY OF (3131)**TOLEDO, Ohio 43606  
(419) 537-2072**SOLAR RELATED COURSES****Energy Conversion I**

Instructor: Eltimahy, Adel H.  
(419) 537-2638  
Course Number: 436:361  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy Conversion  
Number of Times Taught: 2  
Average Enrollment: 40

**Power Electronics I**

Instructor: Stuart, T.  
(419) 537-2251  
Course Number: 436:468  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Energy Conversion



Number of Times Taught: 3  
Average Enrollment: 10

**Power Electronics II**

Instructor: Stuart, T.  
(419) 537-2251  
Course Number: 436:469  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Energy Conversion  
Number of Times Taught: 3  
Average Enrollment: 10

**Solar Energy Utilization**

Instructor: Eltimasahy, Adel H.  
(419) 537-2638  
Course Number: 436-4/563  
Department: Electrical Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 30  
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Systems Design; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling  
Number of Times Taught: 4  
Average Enrollment: 15

**Solar Heating and Cooling**

Course Number: 484:641  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water  
Number of Times Taught: 1  
Average Enrollment: 10

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**WALSH COLLEGE**  
CANTON, Ohio 44720  
(216) 499-7090

(3135)

**SOLAR RELATED COURSES****Solar Heating**

Instructor: Over, Calvin S.  
Course Number: CE0109  
Department: Continuing Education  
Student Level: All levels

Duration: 5 Weeks, 1.0 hrs per week  
Contact Hours: 5  
Classroom: 5  
Topics Covered Extensively: Intro. to Solar Energy  
Number of Times Taught: 0

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**XAVIER UNIVERSITY**  
CINCINNATI, Ohio 45207  
(513) 745-3000

(3144)

**SOLAR RELATED COURSES****Experiments in Physics**

Instructor: Toepker, Terrence  
(513) 745-3626  
Course Number: PH330  
Department: Physics  
Credits: 3  
Student Level: College Graduate  
Duration: 5 Weeks, 7.5 hrs per week  
Contact Hours: 38  
Classroom: 12  
Laboratory: 26  
Number of Times Taught: 1  
Average Enrollment: 3

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**YOUNGSTOWN ST UNIVERSITY**  
YOUNGSTOWN, Ohio 44555  
(216) 746-1851

(3145)

**SOLAR RELATED COURSES****Adv. Topics in Solar Energy Engr.**

Instructor: Alexander, Charles  
(216) 742-3013  
Course Number: EE972  
Department: Elec. Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Appropriate Technology; Energy Storage; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Process Heat, Industrial; Space Heating; Space Cooling  
Number of Times Taught: 2  
Average Enrollment: 12

**Introduction to Modern Technology**

Instructor: Alexander, Charles  
(216) 742-3013  
Course Number: EE 555  
Department: Elec. Engin.  
Credits: 4

Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Number of Times Taught: 1  
 Average Enrollment: 21

**Solar Energy Engineering**

Instructor: Alexander, Charles  
 (216) 742-3013  
 Course Number: EE971  
 Department: Elec. Engineering  
 Credits: 4  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Heat and Energy Transfer; Photovoltaics; Domestic Hot Water; Elec'l Generation, Central; Space Heating  
 Number of Times Taught: 6  
 Average Enrollment: 10

**Solar Energy Engineering 831**

Instructor: Alexander, Charles  
 (216) 742-3013  
 Course Number: EE 831  
 Department: Elec. Engin.  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Appropriate Technology; Energy Conversion; Heat and Energy Transfer; Photovoltaics; Solar System Components; Domestic Hot Water; Elec'l Generation; Central; Space Heating  
 Number of Times Taught: 9  
 Average Enrollment: 33

**Solar Energy Systems, Syn. and Opt.**

Instructor: Alexander, Charles  
 (216) 742-3013  
 Course Number: EE832  
 Department: Elec. Engineering  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Appropriate Technology; Energy Storage; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Process Heat, Industrial; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 13

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**Community/Junior Colleges****LAKELAND Cnty COLLEGE**

(6804)

MENTOR, Ohio 44060  
 (216) 951-1000

**SOLAR RELATED COURSES****Solar Heating**

Instructor: Susel, Frank  
 (216) 951-1000  
 Course Number: LL50558  
 Department: Lifelong Learning  
 Student Level: All levels  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 20  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 5

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**SINCLAIR Cnty COLLEGE**

(3119)

DAYTON, Ohio 45402  
 (513) 226-2500

**SOLAR RELATED COURSES****Intro to Solar Heating and Cooling**

Instructor: Nataraj, Nataraj S.  
 (513) 226-2835  
 Course Number: EGR 125  
 Department: Engineering and Indus. Tech  
 Credits: 3  
 Student Level: All levels  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 27  
 Laboratory: 6  
 Number of Times Taught: 2  
 Average Enrollment: 15

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**Vocational/Technical Colleges**

CENTRAL OHIO TECHNICAL C  
NEWARK, Ohio 43055  
(614) 366-1351

(11046)

## SOLAR RELATED COURSES

## Environmental Control

Instructor: Pond, Robert  
(614) 366-1351  
Course Number: 3443  
Department: Division of Engineering  
Technologies  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Classroom: 24  
Laboratory: 36

Topics Covered Extensively: Intro. to  
Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Installation; Space Heating; Space  
Cooling

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COLUMBUS TECHNICAL INST  
COLUMBUS, Ohio 43216  
(614) 221-6743

(6867)

## SOLAR RELATED COURSES

## Solar Energy

Instructor: Pierce, David  
(614) 221-6743  
Department: Architecture  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 22  
Laboratory: 22

Topics Covered Extensively: Solar System  
Components; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water; Space Heating; Space Cooling

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MUSKINGUM AREA TECH C  
ZANESVILLE, Ohio 43701  
(614) 454-2501

(8133)

## SOLAR RELATED COURSES

## Solar Home Heating

Instructor: Goehring, C.  
(614) 454-2501  
Course Number: ACE 186  
Department: Lifelong Learning  
Student Level: All levels  
Duration: 5 Weeks, 2.0 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Appropriate  
Technology; Energy Conversion; Intro.

to Solar Energy; Solar System  
Components; Solar Systems Design; Solar  
Systems Installation  
Number of Times Taught: 3  
Average Enrollment: 10

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NORTHWEST TECH COLLEGE  
ARCHBOLD, Ohio 43502  
(419) 267-5511

(8677)

## SOLAR RELATED COURSES

## Here Comes The Sun

(419) 267-5511  
Student Level: All levels  
Duration: 1 Weeks, 11.0 hrs per week  
Contact Hours: 11  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology; Plumbing,  
Techniques; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Space Heating

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## Other Educational Institutions

NHAW - HOME STUDY INSTITUTE (90400)  
1661 West Henderson  
Columbus, Ohio 43220

## PROGRAMS AND CURRICULA

## \*Home Study Program

Contact: Healy, James  
(614) 459-2100  
Students Taking or Completing Offering:  
Solar Technician

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## Colleges/Universities

OKLA STATE U. MAIN CAMPUS  
STILLWATER, Oklahoma 74074  
(405) 624-5800

(3170)

## PROGRAMS AND CURRICULA

*Elec. Engin.-Emphasis on Energy*  
Degree: PhD, MS, BS, Electrical  
Engineering  
Contact: Bacon, C.M.  
(405) 624-5156

## SOLAR RELATED COURSES

*Alternative Energy Systems*

Instructor: Proppe, Jody  
(405) 624-6266  
Department: Architecture Extension  
Student Level: All levels  
Duration: 1 Weeks, 7.0 hrs per week  
Contact Hours: 7  
Classroom: 7  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Passive Solar  
Technology

*Des. and Cons. of Energy Sav. Homes*

Instructor: Bose, Jim/ Irby, Dean  
(405) 624-5638  
Department: Technology Extension  
Student Level: All levels  
Duration: 1 Weeks, 16.0 hrs per week  
Contact Hours: 16  
Classroom: 16  
Topics Covered Extensively: Alternate  
Energy Sources; Solar Systems Design;  
Solar Systems Installation; Solar  
Systems Maintenance  
Number of Times Taught: 2  
Average Enrollment: 25

*Design of Solar Systems*

Instructor: Dubensky, Robert  
Department: Technology Extension  
Student Level: All levels  
Duration: 1 Weeks, 8.0 hrs per week  
Contact Hours: 8  
Classroom: 8  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Solar Systems  
Design  
Number of Times Taught: 1  
Average Enrollment: 100

*Direct Energy Conversion I*

Instructor: Ramakumar, R.  
(405) 624-5170  
Course Number: 4133  
Department: Electrical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy

Conversion; Intro. to Solar Energy  
Number of Times Taught: 17  
Average Enrollment: 25

*Direct Energy Conversion, II*

Instructor: Ramakumar, R.  
(405) 624-5170  
Course Number: 5153  
Department: Electrical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conversion; Intro. to Solar Energy;  
Photovoltaics; Elec'l Generation,  
Central; Elec'l Generation, Small  
Scale; Wind Power, Central Systems;  
Wind Power, Small Systems  
Number of Times Taught: 4  
Average Enrollment: 11

*Earth Sheltered Housing Design*

Instructor: Proppe, Jody  
(405) 624-6266  
Department: Architecture Extension  
Student Level: All levels  
Duration: 1 Weeks, 14.0 hrs per week  
Contact Hours: 14  
Classroom: 14  
Number of Times Taught: 9  
Average Enrollment: 70

*Elect. Engr. Aspects-Wind Ener. Systems*

Instructor: Hughes, W.L./  
Lingelbach, D.  
(405) 624-5168  
Department: Cont. Education  
Student Level: All levels  
Duration: 1 Weeks, 7.0 hrs per week  
Contact Hours: 7  
Topics Covered Extensively: Energy  
Conversion; Elec'l Generation, Central;  
Elec'l Generation, Small Scale; Wind  
Power, Small Systems

*Energy Conservation and Management*

Instructor: Turner, W.C.  
(405) 624-6055  
Department: Industrial Engineering  
and Management  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 30  
Laboratory: 18  
Topics Covered Extensively: Energy  
Conservation

*Energy Conservation and Management*

Instructor: Turner, W.C.  
(405) 624-6055  
Course Number: INEN4923  
Department: Indus. Engr. and  
Management  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48  
Classroom: 32  
Laboratory: 16

Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Storage;  
Solar Economics; Process Heat;  
Industrial; Space Heating; Space  
Cooling; Wind Power; Small Systems

**Environmental Power Systems**

Instructor: Bryant, John  
(405) 624-6043

Course Number: 5763

Department: Architecture

Credits: 3

Student Level: College Graduate

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy; Passive Solar  
Technology

Number of Times Taught: 1

Average Enrollment: 6

**Hot Air Panel Cons.**

Instructor: Bose, Jim  
(405) 624-5638

Department: Technology Extension

Student Level: All levels

Duration: 1 Weeks, 8.0 hrs per week

Contact Hours: 8

Classroom: 8

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Solar Systems  
Design

Number of Times Taught: 6

Average Enrollment: 50

**Illumination and Power Distribution**

Instructor: Bryant, John  
(405) 624-6043

Course Number: 5724

Department: Architecture

Credits: 4

Student Level: College Graduate

Duration: 16 Weeks, 4.0 hrs per week

Contact Hours: 64

Classroom: 64

Topics Covered Extensively: Energy  
Conservation

Number of Times Taught: 5

Average Enrollment: 6

**Intro. to Solar Heating**

Instructor: Dubensky, Robert

Department: Technology Extension

Student Level: All levels

Duration: 1 Weeks, 8.0 hrs per week

Contact Hours: 8

Classroom: 8

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Solar Systems  
Design

Number of Times Taught: 22

Average Enrollment: 27

**Lighting/Energy Design**

Instructor: Proppe, Jody  
(405) 624-6266

Department: Architecture Extension

Student Level: College Graduate

Duration: 1 Weeks, 14.0 hrs per week

Contact Hours: 14

Classroom: 7

Laboratory: 7

Topics Covered Extensively: Energy  
Conservation

**Solar Controls & Storage**

Instructor: Dubensky, Robert

Department: Technology Extension

Student Level: All levels

Duration: 1 Weeks, 8.0 hrs per week

Contact Hours: 8

Classroom: 8

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Solar Systems  
Design

Number of Times Taught: 2

Average Enrollment: 50

**Solar Energy**

Instructor: Parker, Jerald D.  
(405) 624-5900

Course Number: MAE5010

Department: Engr. Tech. and Arch/  
School of MAE

Credits: 3

Student Level: Junior or Senior

Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42

Classroom: 42

Topics Covered Extensively: Intro. to  
Solar Energy; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design

Number of Times Taught: 1

Average Enrollment: 30

**Solar Heating and Energy Saving Systems**

Instructor: Bose, James E.  
(405) 624-5638

Course Number: GENT4050

Department: Technology

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Storage; Plumbing Techniques;  
Solar Home Construction; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Domestic Hot Water;  
Swimming Pool Heating; Space Heating;  
Space Cooling

Number of Times Taught: 1

Average Enrollment: 45



**Solar Heating Appl.**

Instructor: Bose, Jim  
(405) 624-5638  
Department: Technology Extension  
Student Level: All levels  
Duration: 1 Weeks, 8.0 hrs per week  
Contact Hours: 8  
Classroom: 8  
Topics Covered Extensively: Alternate  
Energy Sources; Solar Economics; Solar  
Home Construction  
Number of Times Taught: 2  
Average Enrollment: 20

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OKLAHOMA NORMAN CAMP, U OF  
NORMAN, Oklahoma 73019  
(405) 325-0311

(3184)

**SOLAR RELATED COURSES****Energy Conservation in Buildings - Seminar**

Instructor: Calvert, Floyd O.  
(405) 325-2444  
Course Number: 6023  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conservation; Passive Solar Technology  
Number of Times Taught: 4  
Average Enrollment: 20

**Energy Conservation Seminar**

Instructor: Calvert, Floyd O.  
(405) 325-2444  
Course Number: ARCH 6023  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy  
Conservation; Passive Solar Technology  
Number of Times Taught: 4  
Average Enrollment: 20

**Solar Energy Thermal Processes**

Instructor: Turkington, D.B.  
(405) 325-5011  
Course Number: AME 6730  
Department: Aerospace, Mech. and  
Nuclear Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 2  
Average Enrollment: 13

**Special Top-Physical Chemistry**

Instructor: Murphy, George  
(405) 325-3691  
Course Number: 6670  
Department: Chemistry  
Credits: 2  
Student Level: College Graduate  
Duration: 2 Weeks, 13.0 hrs per week  
Contact Hours: 25  
Classroom: 25

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TULSA, UNIVERSITY OF  
TULSA, Oklahoma 74104  
(918) 939-6351

(3185)

**SOLAR RELATED COURSES****Solar Energy Seminar**

Instructor: Ketcham, Bruce V.  
(918) 939-6351  
Course Number: E.S. 3093  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 35

**Solar Heating and Cooling Fundamentals**

Instructor: Ketcham, Bruce V.  
(918) 939-6351  
Course Number: E.S. 3093  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Topics Covered Extensively: Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 35

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## Colleges/Universities

**OREGON INST OF TECHNOLOGY**  
 KLAMATH FALLS, Oregon 97601  
 (503) 882-6321

(3211)

## SOLAR RELATED COURSES

*Seminar (Solar Heating)*

Instructor: King, William N.  
 (503) 882-6321  
 Course Number: MET 207  
 Department: Mechanical Engineering  
 Technology  
 Credits: 1  
 Student Level: All levels  
 Duration: 5 Weeks, 2.0 hrs per week  
 Contact Hours: 10  
 Classroom: 10  
 Topics Covered Extensively: Passive  
 Solar Technology; Solar System  
 Components; Solar Economics; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Domestic Hot Water;  
 Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 74

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**OREGON MAIN CAMPUS, U OF**  
 EUGENE, Oregon 97403  
 (503) 686-3111

(3223)

## PROGRAMS AND CURRICULA

*Solar Energy Center*

Degree: no  
 Contact: Reynolds, John S.  
 (503) 686-3631

Students Taking: Completing Offering:  
 Architect, Educator, Researcher, Solar  
 Technician

## SOLAR RELATED COURSES

*Environmental Control Systems 321*

Instructor: Reynolds, John S.  
 (503) 686-3631  
 Course Number: ARCH 321  
 Department: Architecture  
 Program or  
 Curriculum: Solar Energy Center  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Heat and Energy Transfer; Intro. to  
 Solar Energy; Materials Research;  
 Passive Solar Technology; Plumbing  
 Techniques; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space

Heating; Space Cooling  
 Number of Times Taught: 5  
 Average Enrollment: 140

*Environmental Control Systems 322*

Instructor: Reynolds, John S.  
 (503) 686-3631  
 Course Number: ARCH 322  
 Department: Architecture  
 Program or  
 Curriculum: Solar Energy Center  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Heat and Energy Transfer; Intro. to  
 Solar Energy; Materials Research;  
 Passive Solar Technology; Plumbing  
 Techniques; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating; Space Cooling  
 Number of Times Taught: 5  
 Average Enrollment: 140

*Environmental Control Systems 323*

Instructor: Reynolds, John S.  
 (503) 686-3631  
 Course Number: ARCH 323  
 Department: Architecture  
 Program or  
 Curriculum: Solar Energy Center  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Heat and Energy Transfer; Intro. to  
 Solar Energy; Materials Research;  
 Passive Solar Technology; Plumbing  
 Techniques; Solar System Components;  
 Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating; Space Cooling  
 Number of Times Taught: 5  
 Average Enrollment: 140

*Sun as a Future Energy Source*

Instructor: McDaniels, D. K.  
 (503) 686-4765  
 Course Number: PH-116  
 Department: Physics  
 Program or  
 Curriculum: Solar Energy Center  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Elec'l Generation, Central; Space Heating  
 Number of Times Taught: 10  
 Average Enrollment: 200

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# OREGON STATE UNIVERSITY

(3210)

CORVALLIS, Oregon 97331  
 (503) 754-1133

## SOLAR RELATED COURSES

### Atmospheric Radiative Processes

Instructor: Rao, C.P.H.  
 (503) 754-4557  
 Course Number: 560/561  
 Department: Atmospheric Sciences  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 4.0 hrs per week  
 Contact Hours: 40  
 Classroom: 30  
 Topics Covered Extensively: Heat and Energy Transfer

### Farm Structures 361

Instructor: Hellickson, Martin L.  
 (503) 754-2041  
 Course Number: AET 361  
 Department: Agricultural Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 9 Weeks, 5.0 hrs per week  
 Contact Hours: 45  
 Classroom: 27  
 Laboratory: 18  
 Average Enrollment: 25

### Farm Structures 461

Instructor: Hellickson, Martin L.  
 (503) 754-2041  
 Course Number: AE 461  
 Department: Agricultural Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 9 Weeks, 5.0 hrs per week  
 Contact Hours: 45  
 Classroom: 27  
 Laboratory: 18  
 Average Enrollment: 25

### Solar Energy Thermal Processes

Instructor: Larson, Milton B.  
 (503) 754-4646  
 Course Number: ME 406  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.0 hrs per week

Contact Hours: 30  
 Classroom: 30

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Number of Times Taught: 4  
 Average Enrollment: 12

## Solar Rad. and Meteorological Measurement

Instructor: Rao, C.P.H.  
 (503) 753-1534  
 Course Number: 420/421  
 Department: Atmospheric Sciences  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 7.0 hrs per week  
 Contact Hours: 70  
 Classroom: 20  
 Laboratory: 40  
 Topics Covered Extensively: Intro. to Solar Energy

## Special Studies

Instructor: Hellickson, Martin L.  
 (503) 754-2041  
 Course Number: AE 199  
 Department: Agricultural Engineering  
 Credits: 1  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 1.0 hrs per week  
 Contact Hours: 10  
 Classroom: 3  
 Laboratory: 7  
 Number of Times Taught: 3  
 Average Enrollment: 30

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# PACIFIC UNIVERSITY

(3212)

FOREST GROVE, Oregon 97116  
 (503) 357-6151

## SOLAR RELATED COURSES

### Ener. Cons. in the Residential Sector

Instructor: Griffith, Tom/Story, Joe  
 (503) 357-6151  
 Course Number: 555  
 Department: Science/Social Science  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 3 Weeks, 15.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector

Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Testing and Evaluation;  
Domestic Hot Water; Swimming Pool  
Heating; Elec'l Generation, Central;  
Elec'l Generation, Small Scale; Space  
Heating

Number of Times Taught: 1

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#### Community/Junior Colleges

**CLACKAMAS CNTY COLLEGE:** (4878)  
OREGON CITY, Oregon 97045  
(503) 656-2631

#### SOLAR RELATED COURSES

##### Introduction to Appropriate Energy

Instructor: Aronson, Mike  
(503) 656-2631  
Department: Physical Science  
Credits: 3  
Student Level: All levels  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 22  
Laboratory: 11

Topics Covered Extensively: Intro. to  
Solar Energy; Passive Solar Technology;  
Solar Systems Design; Space Heating

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**LINN-BENTON CNTY COLLEGE** (6938)  
ALBANY, Oregon 97321  
(503) 928-2361

#### PROGRAMS AND CURRICULA

##### Engineering Tech.-Solar Energy Option

Degree: AD, Engineering Tech.  
Contact: Miller, Dave  
(503) 928-2361

#### SOLAR RELATED COURSES

##### Alternative Energy Sources

Course Number: 3.527  
Department: Engineering Technology  
Program or Curriculum: Engineering Tech.-Solar  
Energy Option  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;

Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy; Solar  
System Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Elec'l Generation, Small Scale;  
Wind Power, Small Systems

Number of Times Taught: 4

Average Enrollment: 15

##### Energy Systems Management

Course Number: 6.220  
Department: Engineering Technology  
Program or Curriculum: Engineering Tech.-Solar  
Energy Option

Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33

Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Systems Maintenance;  
Solar Systems Testing and Evaluation;  
Elec'l Generation, Central; Elec'l  
Generation, Small Scale; Process Heat,  
Industrial; Space Heating; Space  
Cooling; Wind Power, Central Systems;  
Wind Power, Small Systems

##### Solar Energy

Course Number: 6.221  
Department: Engineering Technology  
Program or Curriculum: Engineering Tech.-Solar  
Energy Options

Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33

Topics Covered Extensively: Biomass  
Conversion; Energy Conservation; Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Materials Research; Passive  
Solar Technology; Solar System  
Components; Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Elec'l  
Generation, Small Scale; Space Heating;  
Wind Power, Small Systems

Number of Times Taught: 2

Average Enrollment: 12

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ROGUE COMMUNITY COLLEGE  
GRANTS PASS, Oregon, 97526  
(503) 479-5541

(10182)

## SOLAR RELATED COURSES

Nat. Ener. Convs., Dom. Sol. Water Heater

Instructor: Lilly, Joseph  
(503) 479-5541

Course Number: 642

Department: Science and Small Farm  
Management

Credits: 3

Student Level: All levels

Duration: 14 Weeks, 5.0 hrs per week

Contact Hours: 70

Topics Covered Extensively: Alternate

Energy Sources; Appropriate Technology;

Energy Conservation; Energy Conversion;

Energy Storage; Heat and Energy

Transfer; Intro. to Solar Energy;

Passive Solar Technology; Solar Energy

Policy Development; Solar System

Components; Solar Economics; Solar

Law/Legislation; Solar Systems

Installation; Solar Systems

Maintenance; Domestic Hot Water; Space  
Heating

Number of Times Taught: 4

Average Enrollment: 14

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**Colleges/Universities**

**CALIFORNIA STATE COLLEGE** (3316)  
CALIFORNIA, Pennsylvania 15419  
(412) 938-4000

**SOLAR RELATED COURSES**

*Energy and Power*

Instructor: Hallidy, William  
(412) 938-4153  
Department: Physical Science  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Elec'l Generation, Central; Elec'l  
Generation, Small Scale  
Number of Times Taught: 2  
Average Enrollment: 25

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**DICKINSON COLLEGE** (3253)  
CARLISLE, Pennsylvania 17013  
(717) 243-5121

**SOLAR RELATED COURSES**

*Appro. Tech-Is Small Beautiful?*

Instructor: Kromkowski, F.  
(717) 243-5121  
Course Number: ES112  
Department: Environmental Science  
Credits: 4  
Student Level: All levels  
Duration: 3 Weeks, 15.0 hrs per week  
Contact Hours: 45  
Classroom: 39  
Topics Covered Extensively: Appropriate  
Technology  
Number of Times Taught: 1  
Average Enrollment: 9

*Environmental Economics*

Instructor: Houston, C.  
(717) 243-5121  
Course Number: ECON 222  
Department: Economics  
Credits: 4  
Student Level: All levels  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 30  
Topics Covered Extensively: Appropriate  
Technology; Marketing/Market Analysis  
Number of Times Taught: 2  
Average Enrollment: 35

*Metecology*

Instructor: Laws, K.  
(717) 243-5121  
Course Number: PHS 202

Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Number of Times Taught: 7  
Average Enrollment: 50

*Topics in Contemporary Physics*

Instructor: Long, H.  
(717) 243-5121  
Course Number: PHS 461  
Department: Physics & Astronomy  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar Energy  
Number of Times Taught: 2  
Average Enrollment: 7

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**DREXEL UNIVERSITY** (3256)  
PHILADELPHIA, Pennsylvania 19104  
(215) 895-2000

**SOLAR RELATED COURSES**

*Solar Energy*

Instructor: Larson, Donald C.  
(215) 895-2724  
Course Number: N775  
Department: Science/Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar Systems  
Design; Solar Systems Testing and  
Evaluation; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 3

*Solar Heating and Cooling*

Instructor: Larson, Donald  
(215) 895-2724  
Department: Continuing Professional  
Education  
Student Level: College Graduate  
Duration: 8 Weeks, 2.5 hrs per week  
Contact Hours: 20  
Classroom: 18  
Laboratory: 2  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 30

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**GANNON COLLEGE**  
 ERIE, Pennsylvania 16501  
 (814) 456-7523

(3266)

**SOLAR RELATED COURSES***Design Project for Solar Heat*

Instructor: Dowell, Milt  
 (814) 838-1683  
 Course Number: E160  
 Department: Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 6.0 hrs per week  
 Contact Hours: 84  
 Topics Covered Extensively: Space Heating  
 Average Enrollment: 1

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**GETTYSBURG COLLEGE**  
 GETTYSBURG, Pennsylvania 17325  
 (717) 334-3131

(3268)

**SOLAR RELATED COURSES***Energy and Environment*

Instructor: Cowan, David J.  
 (717) 334-3131  
 Course Number: 140  
 Department: Physics  
 Credits: 3  
 Student Level: All levels  
 Duration: 12 Weeks, 3.0 hrs per week  
 Contact Hours: 36  
 Classroom: 36  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology  
 Number of Times Taught: 4  
 Average Enrollment: 35

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**INDIANA U OF PENNSYLVANIA**  
 INDIANA, Pennsylvania 15701  
 (412) 357-2100

(8810)

**SOLAR RELATED COURSES***Solar Energy*

Instructor: Hershman, K.E.  
 (412) 357-2192  
 Course Number: PY 491  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology;

Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 18

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**KUTZTOWN STATE COLLEGE**  
 KUTZTOWN, Pennsylvania 19530  
 (215) 683-3511

(3322)

**SOLAR RELATED COURSES***Our Physical Ecosystem*

Instructor: Walter, Karl F.  
 (215) 683-3511  
 Course Number: PHY 015  
 Department: Physical Science  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 30  
 Laboratory: 30  
 Topics Covered Extensively: Energy Conservation  
 Number of Times Taught: 6  
 Average Enrollment: 10

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**PA ST U SHENANGO VLY CAM**  
 SHARON, Pennsylvania 16146  
 (412) 981-1640

(3345)

**PROGRAMS AND CURRICULA***Solar Heating and Cooling Technology*

Degree: Short Course Certificate  
 Contact: Houlihan, John F.  
 (412) 981-1640

**SOLAR RELATED COURSES***Fundamentals of Solar Energy*

Instructor: Houlihan, J. F.  
 (412) 981-1640  
 Course Number: PHYS. 296  
 Department: Physics  
 Program or Curriculum: Solar Heating and Cooling Technology  
 Credits: 2  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 15  
 Laboratory: 5  
 Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space

# Pennsylvania

## Solar Energy Research Institute

Cooling; Wind Power, Central Systems  
Number of Times Taught: 2  
Average Enrollment: 12

### Intro.

Topics Covered Extensively: Intro. to  
Solar Energy; Space Heating; Wind  
Power, Central Systems

### Intro. to Solar Energy

Instructor: Houlihan, John F.  
(412) 981-1640  
Course Number: PHYS. 297  
Department: Physics  
Program or Curriculum:

Solar Heating and  
Cooling Technology

Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 28  
Laboratory: 2

Topics Covered Extensively: Intro. to  
Solar Energy; Space Heating; Wind  
Power, Central Systems

Number of Times Taught: 2  
Average Enrollment: 15

### Solar Heating and Cooling Technology

Instructor: Houlihan, J. F.  
(412) 981-1640  
Course Number: PHYS. 297  
Department: Physics  
Program or Curriculum:

Solar Heating and  
Cooling Technology

Credits: 1  
Student Level: All levels  
Duration: 2 Weeks, 40.0 hrs per week  
Contact Hours: 80  
Classroom: 60  
Laboratory: 12

Topics Covered Extensively: Energy  
Conservation; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Marketing/Market Analysis;  
Passive Solar Technology; Solar System  
Components; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Domestic Hot Water; Space  
Heating; Space Cooling

Number of Times Taught: 1  
Average Enrollment: 30

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### PA STATE U ALLENTOWN CAM

(3330)

FOGELSVILLE, Pennsylvania 18051  
(215) 285-4811

### SOLAR RELATED COURSES

\*Solar Workshop-Cooling for Homes  
Topics Covered Extensively: Space  
Cooling

\*Solar Workshop-Domestic Hot Water Sys.  
Topics Covered Extensively: Domestic Hot  
Water

\*Solar Workshop-Passive Sol. Heat.  
Topics Covered Extensively: Passive  
Solar Technology

\*Solar Workshop-Solar Space Heat. Sys.  
Topics Covered Extensively: Space  
Heating

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### PA STATE U MAIN CAMPUS

(6965)

UNIVERSITY PARK, Pennsylvania 16802  
(814) 865-4700

### SOLAR RELATED COURSES

Solar Energy Building System Design  
Instructor: Gilman, Stanley F.  
(814) 865-6394

Course Number: AE-497  
Department: Architectural  
Engineering

Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 7.0 hrs per week  
Contact Hours: 70  
Classroom: 40

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar Economics; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating

Number of Times Taught: 4  
Average Enrollment: 21

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### PENNSYLVANIA, U OF

(3378)

PHILADELPHIA, Pennsylvania 19104  
(215) 243-5000

### PROGRAMS AND CURRICULA

#### Energy Engineering

Degree: MS, Science in Engineering  
Contact: Eisenberg, Larry  
(215) 243-8507

Students Taking or Completing Offering:  
Educator, Researcher, Solar Engineer

### SOLAR RELATED COURSES

#### Energy Conversion

Instructor: Fegley, Ken  
Course Number: 566  
Department: Systems Engineering  
Program or Curriculum:

Energy Engineering

Credits: 3  
Student Level: College Graduate  
Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer  
 Number of Times Taught: 4  
 Average Enrollment: 15

**Materials for Energy Engineering**

Instructor: Laird, Campbell  
 Course Number: 555  
 Department: Material Science  
 Program or  
 Curriculum: Energy Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Energy  
 Storage; Materials Research  
 Number of Times Taught: 4  
 Average Enrollment: 15

**Prin. of Solar Energy Utilization**

Instructor: Lior, Noam  
 Course Number: 591  
 Department: Mechanical Engineering  
 Program or  
 Curriculum: Energy Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Biomass Conversion; Energy  
 Conservation; Energy Storage; Intro. to  
 Solar Energy; Passive Solar Technology  
 Number of Times Taught: 4  
 Average Enrollment: 15

**Solid State Energy Conversion**

Instructor: Wolf, Martin  
 Course Number: EES 524  
 Department: Electrical Eng. &  
 Science  
 Program or  
 Curriculum: Energy Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Topics Covered Extensively: Energy  
 Conservation; Energy Conversion; Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Photovoltaics;  
 Elec'l Generation, Central; Elec'l  
 Generation, Small Scale  
 Number of Times Taught: 3  
 Average Enrollment: 15

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**PHILA COLLEGE OF ART** (3350)  
 PHILADELPHIA, Pennsylvania 19102  
 (215) 893-3100

**SOLAR RELATED COURSES****Alternate Energy-Solar**

Instructor: Andrews, Jack  
 (215) 893-3170  
 Course Number: EN 212  
 Department: Industrial and  
 Environmental Design  
 Credits: 2  
 Student Level: All levels  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Energy  
 Conservation; Intro. to Solar Energy;  
 Passive Solar Technology; Solar Home  
 Construction  
 Number of Times Taught: 3  
 Average Enrollment: 18

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**SAINT VINCENT COLLEGE** (3368)  
 LATROBE, Pennsylvania 15650  
 (412) 539-9761

**SOLAR RELATED COURSES****Solar Energy**

Instructor: Heid, Roland L.  
 (412) 539-9761  
 Department: Physics  
 Student Level: All levels  
 Duration: 6 Weeks, 3.0 hrs per week  
 Contact Hours: 18  
 Classroom: 18

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**SWARTHMORE COLLEGE** (3370)  
 SWARTHMORE, Pennsylvania 19081  
 (215) 544-7900

**SOLAR RELATED COURSES****Alternate Energy Technologies**

Instructor: Bowler, D. L./ Barnes,  
 C./ Orthlieb, F.  
 (215) 544-7900  
 Course Number: E 7  
 Department: Engineering  
 Credits: 1  
 Student Level: Freshman or Sophomore  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 70  
 Classroom: 52  
 Laboratory: 18  
 Number of Times Taught: 3  
 Average Enrollment: 6

**Solar Heating-Design**

Instructor: Bowler, D. L./ Barnes,  
 C./ Orthlieb, F.  
 (215) 544-7900  
 Course Number: E 90

Department: Engineering  
Credits: 1  
Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 104  
Classroom: 52  
Laboratory: 52  
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 15

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TEMPLE UNIVERSITY (3371)  
PHILADELPHIA, Pennsylvania 19122  
(215) 787-7000

SOLAR RELATED COURSES

*Energy & Building Design*  
Instructor: Ridenour, Steve  
Department: Architecture  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Passive Solar Technology; Solar Systems Design; Space Heating; Wind Power, Small Systems

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WESTMINSTER COLLEGE (3392)  
NEW WILMINGTON, Pennsylvania 16142  
(412) 946-8761

SOLAR RELATED COURSES

*Energy Use and Alternate Energy Sources*  
Instructor: Zehr, Floyd J.  
Course Number: SC. 14  
Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 5.0 hrs per week  
Contact Hours: 70  
Classroom: 49  
Laboratory: 21  
Topics Covered Extensively: Alternate Energy Sources  
Average Enrollment: 6

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WIDENER COLLEGE (3313)  
CHESTER, Pennsylvania 19013  
(215) 876-5551

SOLAR RELATED COURSES

*Energy I*  
Instructor: Madonna, L. A.  
(215) 876-5551  
Course Number: 437  
Department: Center of Engineering  
Credits: 4

Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 42  
Laboratory: 14  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology  
Average Enrollment: 15

*Energy II*  
Instructor: Madonna, L. A.  
(215) 876-5551  
Course Number: 438  
Department: Center of Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 42  
Laboratory: 14  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer

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WILKES COLLEGE (3394)  
WILKES-BARRE, Pennsylvania 18703  
(717) 824-4651

SOLAR RELATED COURSES

*Alternate Energy Sources*  
Instructor: Nejib, U.R.  
(717) 824-4651  
Course Number: EE390  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 46  
Classroom: 28  
Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Passive Solar Technology; Photovoltaics; Elec'l Generation, Central; Wind Power, Small Systems  
Number of Times Taught: 2  
Average Enrollment: 15

*Energy Cons.-Alts. and Methods*  
Instructor: Nejib, Umid R.  
(717) 824-4651  
Course Number: ED594  
Department: Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 3 Weeks, 38.0 hrs per week  
Contact Hours: 114  
Classroom: 36  
Laboratory: 24  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Energy Policy Development; Elec'l Generation, Central  
Number of Times Taught: 1  
Average Enrollment: 32



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## Community/Junior Colleges

BUCKS COUNTY CHTY COLLEGE (3239)  
 NEWTOWN, Pennsylvania 18940  
 (215) 968-5861

## SOLAR RELATED COURSES

## Understanding Solar Energy

Instructor: Greenhaugh, Sam  
 (215) 968-5861  
 Department: Science  
 Student Level: All levels  
 Duration: 7 Weeks, 3.0 hrs per week  
 Contact Hours: 21  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water  
 Number of Times Taught: 1  
 Average Enrollment: 35

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DELAWARE CO CHTY COLLEGE (7110)  
 MEDIA, Pennsylvania 19063  
 (215) 353-5400

## SOLAR RELATED COURSES

## Conserving Energy Saves Consumer Dollars

Instructor: Mabrey, Marjorie  
 (215) 353-5400  
 Department: Community Education  
 Student Level: All levels  
 Duration: 2 Weeks, 10.0 hrs per week  
 Contact Hours: 20

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HARRISBURG AREA CC (3273)  
 HARRISBURG, Pennsylvania 17110  
 (717) 236-9533

## PROGRAMS AND CURRICULA

## Solar Heating

Degree: Certificate-non-cred. Adult Ed.  
 Contact: Brown, Hazel  
 (717) 236-9535  
 Students Taking or Completing Offering: Do-it-yourself Homeowner, Other

## SOLAR RELATED COURSES

Sol. Heat.-Food, Heat Prod. Greenhouse  
 Department: Community Resources Institute

Program or Curriculum: Solar Heat  
 Student Level: All levels  
 Duration: 3 Weeks, 3.0 hrs per week  
 Contact Hours: 9  
 Classroom: 9  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 20

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KEYSTONE JUNIOR COLLEGE (3280)  
 LA PLUME, Pennsylvania 18440  
 (717) 945-5141

## PROGRAMS AND CURRICULA

## Solar Engineering Technology

Degree: AD, Applied Sci. in Sol. Engr. Tech.  
 Contact: Kutch, Dennis/ Cupilleri, Tom  
 (717) 945-5141  
 Students Taking or Completing Offering: Solar Technician

## SOLAR RELATED COURSES

## Siz., Inst., and Oper.-Sol. Heat. (Res. Bl.)

Instructor: Kutch, Dennis  
 (717) 945-5141  
 Department: Solar Energy Study & Res. Cnt.  
 Program or Curriculum: Solar Engineering Technology  
 Student Level: All levels  
 Duration: 2 Weeks, 36.0 hrs per week  
 Contact Hours: 72  
 Classroom: 30  
 Laboratory: 42  
 Topics Covered Extensively: Energy Conservation; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Solar Hydronic Systems/Solar Air Systems**

Instructor: Kutch, Dennis  
(717) 945-5141  
Course Number: 220  
Department: Solar Energy Study & Res. Cnt.  
Program or Curriculum: Solar Engineering Technology  
Credits: 3  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 30  
Laboratory: 18  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Train.-Des. of Sol. Heat. Sys. for Bldgs.**

Instructor: Kutch, Dennis  
(717) 945-5141  
Department: Solar Energy Study & Res. Cnt.  
Program or Curriculum: Solar Engineering Technology  
Student Level: Junior or Senior  
Duration: 2 Weeks, 36.0 hrs per week  
Contact Hours: 72  
Classroom: 42  
Laboratory: 30  
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

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**LEHIGH CO CNTY COLLEGE**

SCHNECKSVILLE, Pennsylvania 18078  
(215) 799-2121

(6810)

**PROGRAMS AND CURRICULA**

**Alternate Energy Technologies**

Degree: AD, Applied Science  
Contact: Walker, J. Robert  
(215) 799-1515

**SOLAR RELATED COURSES**

**Alternate Energy Technologies**

Instructor: Walker, J. Robert  
(215) 799-1515  
Course Number: PHY 102  
Department: Physics and Technologies  
Program or Curriculum: Alternate Energy

**Technologies**

Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 48  
Laboratory: 48  
Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Solar System Components; Domestic Hot Water

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**NORTHAMPTON CO AREA CC**

(7191)

BETHLEHEM, Pennsylvania 18017  
(215) 865-5351

**SOLAR RELATED COURSES**

**Des. & Util. of Emerging Ener. Sources**

Instructor: Ensminger, Frank E.  
(215) 865-5351  
Department: Vocational/Technical  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 6.0 hrs per week  
Contact Hours: 90  
Classroom: 30  
Laboratory: 60  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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**WILLIAMSPORT AREA CC**

(3395)

WILLIAMSPORT, Pennsylvania 17701  
(717) 326-3761

**PROGRAMS AND CURRICULA**

**Plumbing and Heating**

Degree: Certificate of Applied Arts  
Contact: Krause, George C.  
(717) 326-3761  
Students Taking or Completing Offering: Installer-Residential (Solar System), Plumber, Trade Specialty

**SOLAR RELATED COURSES**

**Plumbing and Heating**

Instructor: Beatty, Franklin P.  
Course Number: 842  
Department: Building Technology, Plumbing and Heating  
Program or Curriculum: Plumbing and Heating

Student Level: Freshman or Sophomore  
 Duration: 8 Weeks, 25.0 hrs per week  
 Contact Hours: 200  
 Classroom: 64  
 Laboratory: 136  
 Number of Times Taught: 4  
 Average Enrollment: 18

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Program or Curriculum: Energy Technology  
 Credits: 4  
 Student Level: High School Graduate  
 Duration: 12 Weeks, 5.0 hrs per week  
 Contact Hours: 60  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Wind Power, Small Systems  
 Number of Times Taught: 1  
 Average Enrollment: 35

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## Vocational/Technical Colleges

PENNSYLVANIA INSTITUTE OF TECHNOLOGY (90180)  
 414 Sanson St.  
 Upper Darby, Pennsylvania 19082

## PROGRAMS AND CURRICULA

Energy Technology  
 Degree: AD, Specialized Technology  
 Contact: Thomas, Richard B.  
 Students Taking or Completing Offering:  
 Solar Technician, Electrician

## SOLAR RELATED COURSES

Advanced Solar Design  
 Instructor: Thomas, Richard  
 (215) 352-7100  
 Course Number: K  
 Program or Curriculum: Energy Technology  
 Credits: 2  
 Student Level: High School Graduate  
 Duration: 12 Weeks, 4.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 1  
 Average Enrollment: 35

Basic Solar Design  
 Instructor: Thomas, Richard B.  
 (215) 352-7100  
 Course Number: 0  
 Program or Curriculum: Energy Technology  
 Credits: 1  
 Student Level: High School Graduate  
 Duration: 12 Weeks, 5.0 hrs per week  
 Contact Hours: 60  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design  
 Number of Times Taught: 1  
 Average Enrollment: 35

Energy Conversion  
 Instructor: Thomas, Richard  
 (215) 352-7100  
 Course Number: B

## Other Educational Institutions

NEW ENGLAND FUEL INSTITUTE (90230)  
 20 Summer St. Box 888  
 Watertown, Pennsylvania 02172

## SOLAR RELATED COURSES

\*Basic Solar Heating Tech.  
 Topics Covered Extensively: Space Heating  
 \*Solar Installation and Maintenance  
 Instructor: Tavino, R./ Taylor, R.  
 (617) 924-1000  
 Student Level: All levels  
 Duration: 4 Weeks, 40.0 hrs per week  
 Contact Hours: 160  
 Classroom: 80  
 Laboratory: 80  
 Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

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PA STATE U CAPITOL CAMPUS (6814)  
 MIDDLETOWN, Pennsylvania 17057  
 (717) 787-7737

## SOLAR RELATED COURSES

Solar Energy-Practical Application  
 Instructor: Aungst, William  
 (717) 787-7956  
 Course Number: MET 420  
 Department: Mechanical Design Engineering Technology  
 Credits: 4  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 50  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components;

Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating

Number of Times Taught: 2  
Average Enrollment: 33

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THE SCHOOL OF LIVING (90290)  
PO Box 3233  
York, Pennsylvania 17402

SOLAR RELATED COURSES

\*Alternative Energy  
Topics Covered Extensively: Alternate  
Energy Sources

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TRIANGLE INSTITUTE OF TECHNOLOGY, INC (90110)  
635 Smithfield St.  
Pittsburgh, Pennsylvania 15222  
(412) 255-6170

PROGRAMS AND CURRICULA

*Solar Energy Systems*

Degree: AD, Specialized Technology  
Contact: Knoyer, Ralph  
(412) 255-6170

Students Taking or Completing Offerings:  
Solar Technician, Electrician, Plumber,  
Sheet Metal Worker

SOLAR RELATED COURSES

*Solar Energy Systems*

Instructor: Knoyer, Ralph  
(412) 255-6170  
Course Number: 400.0  
Department: Refrig., Heat., Vent.,  
and Air Cond.  
Program or  
Curriculum: Solar Energy Systems  
Credits: 10  
Student Level: High School Graduate  
Duration: 16 Weeks, 25.0 hrs per week  
Contact Hours: 390  
Classroom: 90  
Laboratory: 300  
Topics Covered Extensively: Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation

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## Colleges/Universities

PR MAYAGUEZ, U OF (3944)  
MAYAGUEZ, Puerto Rico  
(809) 832-4040

## PROGRAMS AND CURRICULA

*Research in Solar Energy-Related Areas*

Degree: PHD, MS, OTHER, Sciences  
Contact: Rodriguez, Pablo  
(809) 832-4040

Students Taking or Completing Offering:  
Educator, Researcher

## SOLAR RELATED COURSES

*Physics of Energy Systems*

Instructor: Azziz, Nestor  
(809) 832-4040

Course Number: PHYS 428

Department: Physics/Arts and  
Sciences

Program or  
Curriculum: Research in Solar  
Energy-Related Areas

Credits: 3

Student Level: Freshman or Sophomore

Duration: 15 Weeks, 5.0 hrs per week

Contact Hours: 75

Classroom: 30

Laboratory: 45

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conversion; Heat and Energy  
Transfer

Number of Times Taught: 2

Average Enrollment: 6

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## Colleges/Universities

**BROWN UNIVERSITY**  
PROVIDENCE, Rhode Island  
(401) 863-1000

(3401)

## SOLAR RELATED COURSES

*Photovoltaic Solar Cells*

Instructor: Loferski, Joseph J.  
(401) 863-2671  
Course Number: EN 292  
Department: Engineering  
Credits: 4  
Student Level: College Graduate  
Duration: 20 Weeks, 3.0 hrs per week  
Contact Hours: 60  
Classroom: 60  
Topics Covered Extensively:  
Photovoltaics  
Number of Times Taught: 1  
Average Enrollment: 10

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**RHODE ISLAND, U OF**  
KINGSTON, Rhode Island  
(401) 792-1000

(3414)

## SOLAR RELATED COURSES

*Residential Solar Heating*

Instructor: Wilson, C. J.  
(401) 792-2186  
Course Number: EXT  
Department: Engineering (Extension)  
Student Level: All levels  
Duration: 8 Weeks, 3.0 hrs per week  
Contact Hours: 24  
Topics Covered Extensively: Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Home Construction;  
Solar Collector Evaluation/Design;  
Space Heating  
Number of Times Taught: 3  
Average Enrollment: 50

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## Vocational/Technical Colleges

**HALL INSTITUTE**  
330 Harborside Blvd.  
Providence, Rhode Island 02905

(90120)

## PROGRAMS AND CURRICULA

*Solar Energy Seminar*

Degree: Certificate of Completion  
Contact: Rogers, Charles K.  
(401) 461-6000

Students Taking or Completing Offering:

Architect, Educator, Do-it-yourself  
Homeowner

## SOLAR RELATED COURSES

*Solar Energy Seminar*

Instructor: Rogers, Charles K.  
(401) 461-6000

Program or  
Curriculum: Solar Energy Seminar  
Student Level: High School Graduate  
Duration: 4 Weeks, 3.0 hrs per week  
Contact Hours: 12  
Classroom: 12  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Plumbing  
Techniques; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Domestic Hot Water; Space Heating  
Number of Times Taught: 8  
Average Enrollment: 70

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## Colleges/Universities

**CENTRAL WESLEYAN COLLEGE**  
CENTRAL, South Carolina 29630  
(803) 639-2453

(3422)

## SOLAR RELATED COURSES

## Energy

Instructor: Schmutz, J. L.  
(803) 639-2453  
Department: Science/Social Science  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 30  
Laboratory: 15

Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage;  
Solar Economics

## Solar Energy

Instructor: Schmutz, J. L.  
(803) 639-2453  
Course Number: 400  
Department: Science  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 5  
Laboratory: 40

Topics Covered Extensively: Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 14

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**CLENSON UNIVERSITY**  
CLEMSON, South Carolina 29631  
(803) 656-3311

(3425)

## PROGRAMS AND CURRICULA

## Energy Systems

Degree: PhD, MS, Science, Philosophy,  
Mechanical Engineering  
Contact: Bishop, Eugene H.  
(803) 656-3470

Students Taking or Completing Offering:  
Researcher, Solar Engineer, Mechanic,  
or Electrical Contractor, Contractor

## SOLAR RELATED COURSES

## Energy Conversion

Instructor: Lathrop, J. W.  
(803) 656-3371  
Course Number: 403  
Department: Electrical and Computer  
Engineering  
Program or  
Curriculum: Energy Systems  
Credits: 3  
Student Level: Junior or Senior

Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Intro. to  
Solar Energy; Photovoltaics; Solar  
Systems Design; Elec'l Generation;  
Small Scale  
Number of Times Taught: 5  
Average Enrollment: 20

## Energy Conversion

Instructor: Hester, J. C.  
(803) 656-3291  
Course Number: ME 816  
Department: Mechanical Engineering  
Program or  
Curriculum: Energy Systems  
Credits: 3  
Student Level: College Graduate  
Duration: 3 Weeks, 16.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Photovoltaics; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems Design  
Number of Times Taught: 5  
Average Enrollment: 6

## Energy Sources for the Future

Instructor: McKelvey, John P.  
(803) 656-3417  
Course Number: PHYS 245  
Department: Physics and Astronomy  
Program or  
Curriculum: Energy Systems  
Credits: 3  
Student Level: All levels  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Conversion  
Number of Times Taught: 5  
Average Enrollment: 50

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**SC MAIN CAMPUS, U OF**  
COLUMBIA, South Carolina 29208  
(803) 777-0411

(3448)

## SOLAR RELATED COURSES

## Solar Heating and Cooling

Instructor: McMillan  
(803) 777-2252  
Course Number: 536  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 36

Laboratory: 6  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar System Design  
Number of Times Taught: 3  
Average Enrollment: 40

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Community/Junior Colleges

MIDLANDS TECH COLLEGE (3993)  
COLUMBIA, South Carolina 29250  
(803) 796-1266

SOLAR RELATED COURSES

Air Conditioning

Instructor: Sallman, John B.  
(803) 782-5471  
Course Number: MET 232  
Department: Mechanical Engineering  
Credits: 4  
Student Level: All levels  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Number of Times Taught: 2  
Average Enrollment: 10

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PIEDMONT TECH COLLEGE (3992)  
GREENWOOD, South Carolina 29646  
(803) 223-8357

SOLAR RELATED COURSES

Solar Energy for Climate Control

Instructor: Ledford, John  
(803) 223-8357  
Course Number: ACR 204  
Department: Heating and Air  
Conditioning  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 44  
Topics Covered Extensively: Energy  
Conservation; Energy Storage; Intro. to  
Solar Energy; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Installation; Solar  
Systems Maintenance; Domestic Hot  
Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 25

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TRI-COUNTY TECH COLLEGE (4926)  
PENDLETON, South Carolina 29670  
(803) 646-3227

SOLAR-RELATED COURSES

Solar Energy and The Home Owner

Instructor: Fairley, Philip W.  
(803) 646-3227  
Department: Continuing Education  
Student Level: All levels  
Duration: 12 Weeks, 2.0 hrs per week  
Contact Hours: 24

Solar Energy Applications

Instructor: Edwards, Joe  
(803) 646-3227  
Course Number: ACR-240  
Department: Air Conditioning and  
Refrigeration  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 8.0 hrs per week  
Contact Hours: 88  
Classroom: 22  
Laboratory: 66

Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Plumbing  
Techniques; Solar System Components;  
Solar Home Construction; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water

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YORK TECHNICAL COLLEGE (3996)  
POCK HILL, South Carolina 29730  
(803) 328-3843

PROGRAMS AND CURRICULA

Conversion of Solar Energy

Degree: Air Conditioning,  
Refrigeration and Heating  
Contact: White, Lacy  
(803) 324-3130

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Trade Specialty

SOLAR RELATED COURSES

Conversion of Solar Energy

Instructor: White, Lacy  
(803) 324-3130  
Course Number: ACR 204  
Department: Air Conditioning  
Program or  
Curriculum: Conversion of Solar  
Energy  
Credits: 4  
Student Level: High School Graduate  
Duration: 11 Weeks, 8.0 hrs per week  
Contact Hours: 88  
Classroom: 22  
Laboratory: 66

Topics Covered Extensively: Plumbing  
Techniques; Solar Systems Installation;  
Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 18

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### Vocational/Technical Colleges

**BEAUFORT TECH ED CENTER** (9910)  
BEAUFORT, South Carolina 29902  
(803) 524-3380

#### PROGRAMS AND CURRICULA

*Refrigeration and Air Conditioning-  
Solar Energy Appli.*  
Degree: AD, Refrigeration and Air  
Conditioning, General Tech.  
Contact: Spivey, Edward F.  
(803) 524-0148  
Students Taking or Completing Offerings:  
Installer-Residential (Solar System),  
Solar Technician, Trade Specialty

#### SOLAR RELATED COURSES

*Solar Energy Application*  
Instructor: Spivey, E. F.  
(803) 524-0148  
Course Number: ARC 240  
Department: Refrigeration and Air  
Conditioning  
Program or  
Curriculum: Refrigeration and Air  
Conditioning-Solar  
Energy Appli.  
Credits: 4  
Student Level: High School Graduate  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Topics Covered Extensively: Heat and  
Energy Transfer

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**CHESTERFLD-MARLBORO TECH** (7602)  
CHERAW, South Carolina 29520  
(803) 537-5286

#### SOLAR RELATED COURSES

*Climate Control Technology*  
Instructor: Smith, Donald R.  
(803) 537-5286  
Course Number: 204  
Department: Air Cond., Ref. and  
Heating  
Credits: 4  
Student Level: Freshman or Sophomore

Duration: 11 Weeks, 4.0 hrs per week  
Contact Hours: 44  
Classroom: 44

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**FLORENCE DARLINGTON TECH** (3990)  
FLORENCE, South Carolina 29502  
(803) 662-8151

#### PROGRAMS AND CURRICULA

*Conversion of Solar Energy*  
Degree: Climate Control  
Contact: Jackson, Edward  
(803) 662-8151

#### \*SOLAR RELATED COURSES

*Conversion of Solar Energy*  
Instructor: Jackson, Edward  
(803) 662-8151  
Course Number: ARC 204  
Department: Industrial Trades -  
Climate Control  
Program or  
Curriculum: Conversion of Solar  
Energy  
Credits: 4  
Student Level: High School Graduate  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 33  
Laboratory: 33  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Intro. to Solar Energy; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water  
Number of Times Taught: 4  
Average Enrollment: 25

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**GREENVILLE TECH COLLEGE** (3991)  
GREENVILLE, South Carolina 29606  
(803) 242-3170

#### SOLAR RELATED COURSES

*\*Refrigeration Tech. Courses*  
Department: Refrigeration Tech.

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South Carolina

HORRY-GEORGETOWN TECH C  
CONWAY, South Carolina 29526  
(803) 347-3186

(4925)

SOLAR RELATED COURSES

\*Air Condition Tech. Courses  
Department: Air Cond. Tech.

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SPARTANBURG TECH COLLEGE  
SPARTANBURG, South Carolina 29303  
(803) 576-5770

(3994)

SOLAR RELATED COURSES

Basic Solar Heating

Instructor: Watts, John R.  
(803) 576-5770  
Department: Continuing Education  
Student Level: All levels  
Duration: 2 Weeks, 4.0 hrs per week  
Contact Hours: 8  
Classroom: 8  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Space Heating  
Number of Times Taught: 2  
Average Enrollment: 35

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SUMTER AREA TECH COLLEGE  
SUMTER, South Carolina 29150  
(803) 773-9371

(3995)

SOLAR RELATED COURSES

\*Air Cond. Tech. Courses  
Department: Air Conditioning Tech.

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Other Educational Institutions

SC AT SUMTER, U OF  
SUMTER, South Carolina 29150  
(803) 777-6865

(12112)

SOLAR RELATED COURSES

Introduction to Engineering

Instructor: Nerbun, R.C.  
(803) 775-6341  
Course Number: ENGR110  
Department: Engineering  
Credits: 3  
Student Level: High School Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Solar Energy Research Institute

Number of Times Taught: 4  
Average Enrollment: 17

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TRIDENT TECHNICAL COLLEGE

(8818)

P O BOX 10367  
CHARLESTON, South Carolina 29411  
(803) 553-2375

PROGRAMS AND CURRICULA

Air Conditioning-Refrigeration

Degree: Air  
Conditioning-Refrigeration  
Contact: Moore, James L.  
(803) 572-6180

Students Taking or Completing Offering:  
Installer-Residential (Solar System)

SOLAR RELATED COURSES

Solar Heating

Instructor: Moore, James L.  
(803) 572-6180  
Department: Air  
Conditioning-Refrigerat  
ion

Program or  
Curriculum: Air  
Conditioning-Refrigerat  
ion

Student Level: High School Graduate  
Duration: 3 Weeks, 30.0 hrs per week  
Contact Hours: 90  
Classroom: 30  
Laboratory: 60  
Topics Covered Extensively: Heat and  
Energy Transfer; Solar System  
Components; Solar Collector  
Evaluation/Design; Domestic Hot Water;  
Space Heating

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## Colleges/Universities

**SD MAIN CAMPUS, U OF** (3474)  
VERMILLION, South Dakota 57069  
(605) 677-5641

## SOLAR RELATED COURSES

*The Energy Crisis*

Instructor: Jones, Robert W.  
(605) 624-5649  
Course Number: ESC/PHY 385  
Department: Earth Science/Physics  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion  
Number of Times Taught: 5  
Average Enrollment: 18

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**SD SCH MINES & TECHNOLOGY** (3470)  
RAPID CITY, South Dakota 57701  
(605) 394-2411

## SOLAR RELATED COURSES

*Energy Conversion Technology*

Instructor: Cheung  
(605) 394-2408  
Course Number: ME 499  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Heat and Energy  
Transfer; Intro. to Solar Energy; Solar  
Collector Evaluation/Design; Solar  
Systems Design  
Number of Times Taught: 2  
Average Enrollment: 13

*Solar Energy*

Instructor: Chiang, C. W.  
(605) 394-2401  
Course Number: ME 619  
Department: Mechanical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Heat and Energy  
Transfer; Intro. to Solar Energy; Solar  
Collector Evaluation/Design; Solar  
Systems Design  
Number of Times Taught: 2  
Average Enrollment: 11

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**SD STATE UNIVERSITY** (3471)  
BROOKINGS, South Dakota 57007  
(605) 688-4111

## SOLAR RELATED COURSES

*Design of Thermal Systems*

Instructor: Eno, B.  
(605) 688-4817  
Course Number: ME 418  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 2  
Average Enrollment: 12

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## Colleges/Universities

MEMPHIS STATE UNIVERSITY (3509)  
MEMPHIS, Tennessee 38152  
(901) 454-2000

## SOLAR RELATED COURSES

*Fundamentals of Solar Engineering*

Instructor: Perry, Edward H.  
(901) 454-2174  
Course Number: MECH 4317  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 4  
Average Enrollment: 20

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MIDDLE TENN ST UNIVERSITY (3510)  
MURFREESBORO, Tennessee 37130  
(615) 898-2300

## SOLAR RELATED COURSES

*Solar Home Design*

Instructor: Mathis, William H.  
(615) 898-2778  
Course Number: 470C  
Department: Industrial Studies  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 40  
Laboratory: 8  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 17

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TECHN AT CHATTANOOGA, U OF (3529)  
CHATTANOOGA, Tennessee 37401  
(615) 755-4011

## SOLAR RELATED COURSES

*Energy Systems*

Instructor: Russell, Lynn D.  
(615) 755-4121  
Course Number: 586  
Department: School of Engineering  
Credits: 4  
Student Level: College Graduate

Duration: 15 Weeks, 4.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Energy Conversion  
Number of Times Taught: 2  
Average Enrollment: 10

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TENNESSEE KNOXVILLE, U OF (3530)  
KNOXVILLE, Tennessee 37916  
(615) 974-2591

## SOLAR RELATED COURSES

*\*Solar Energy Utilization*

Course Number: EN4740  
Department: Mech. & Aero Eng'r  
Credits: 3  
Student Level: Junior or Senior  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

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TENNESSEE NASHVILLE, U OF (3533)  
NASHVILLE, Tennessee 37203  
(615) 251-1111

## SOLAR RELATED COURSES

*Energy Conversion Systems*

Instructor: Knight, Charles V.  
(615) 251-1341  
Course Number: ME4150  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy  
Number of Times Taught: 5  
Average Enrollment: 22

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TENNESSEE TECHNOLOGICAL U (3523)  
COOKEVILLE, Tennessee 38501  
(615) 528-3241

## SOLAR RELATED COURSES

*Solar Energy Processes and Systems*

Instructor: Hewitt, Jr. Rudy C.  
(615) 528-3269  
Course Number: ME541

Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 12 Weeks, 3.0 hrs per week  
 Contact Hours: 36  
 Classroom: 36  
 Topics Covered Extensively: Energy  
 Storage; Intro. to Solar Energy; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Domestic Hot Water;  
 Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 12

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VANDERBILT UNIVERSITY (3535)  
 NASHVILLE, Tennessee 37240  
 (615) 322-7311

#### PROGRAMS AND CURRICULA

\*Electrical Eng'r.

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#### Community/Junior Colleges

CLEVELAND ST CHTY COLLEGE (3999)  
 CLEVELAND, Tennessee 37311  
 (615) 472-7141

#### PROGRAMS AND CURRICULA

##### *Fac. Dev. Workshop in Energy Alternatives*

Contact: Guy, Buford  
 (615) 472-7141  
 Students Taking or Completing Offering:  
 Educator

#### SOLAR RELATED COURSES

##### *Fac. Dev. Workshop in Energy Alternatives*

Instructor: Guy, Buford  
 (615) 472-7141  
 Department: Community Services and  
 Continuing Education  
 Program or  
 Curriculum: Fac. Dev. Workshop in  
 Energy Alternatives  
 Credits: 6  
 Student Level: College Graduate  
 Duration: 2 Weeks, 30.0 hrs per week  
 Contact Hours: 60  
 Classroom: 50  
 Laboratory: 10  
 Topics Covered Extensively: Alternate  
 Energy Sources

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MOTLOW STATE CHTY COLLEGE (6836)  
 TULLAHOMA, Tennessee 37388  
 (615) 455-8511

#### PROGRAMS AND CURRICULA

##### *Energy Engineering Technology*

Degree: AD, Engr. Tech.-Ener. Engr.  
 Emphasis  
 Contact: Thornton, Otis B.  
 (615) 455-8511

Students Taking or Completing Offering:  
 Installer-Residential (Solar System),  
 Researcher, Solar Technician

#### SOLAR RELATED COURSES

##### *Solar Energy Applications*

Instructor: Lowndes, Richard  
 (615) 455-8511  
 Course Number: ERG 205  
 Department: Career Education  
 Program or  
 Curriculum: Energy Engineering  
 Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 20  
 Laboratory: 30  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Solar Systems Testing and Evaluation;  
 Domestic Hot Water; Space Heating

##### *Solar Energy Theory*

Instructor: Lowndes, Richard  
 (615) 455-8511  
 Course Number: ERG 204  
 Department: Career Education  
 Program or  
 Curriculum: Energy Engineering  
 Technology  
 Credits: 4  
 Student Level: All levels  
 Duration: 10 Weeks, 5.0 hrs per week  
 Contact Hours: 50  
 Classroom: 20  
 Laboratory: 30  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Economics; Solar Home  
 Construction; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Solar Systems Testing and Evaluation;  
 Domestic Hot Water; Space Heating

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## Colleges/Universities

**AMERICAN TECHNOLOGICAL U** (11854)  
KILLEEN, Texas 76541  
(817) 526-1261

## PROGRAMS AND CURRICULA

*Energy Management Sciences*

Degree: MS, Science  
Contact: Smith, Robin/ Kincel, John  
(817) 526-1171  
Students Taking or Completing Offering:  
Educator, Researcher, Solar Engineer,  
Other

## SOLAR RELATED COURSES

*Alternative Energy Sources*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion; Wind-Power, Small Systems

*Applied Solar Energy*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling

*Basics of Solar Energy*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

*Computer Simulation*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate

*Direct Energy Conversion*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management

## Sciences

Student Level: College Graduate  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Intro. to Solar Energy; Photovoltaics

*Economics of Alt. Ener. Sources*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Solar Economics

*Legislative Aspects of Solar Tech.*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Solar Law/Legislation

*Mgmt. of Energy Res. and Development*

Instructor: French, Robert L.  
(817) 526-1271  
Course Number: MSBA5392  
Department: Management & Business  
Program or Curriculum: Energy Management Sciences  
Credits: 3  
Student Level: College Graduate  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Solar Economics  
Number of Times Taught: 1  
Average Enrollment: 15

*Passive Systems Design*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Home Construction; Space Heating; Space Cooling

*Solar Agricultural Appls.*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management Sciences  
Student Level: College Graduate  
Topics Covered Extensively: Passive Solar Technology; Process Heat, Agricultural

*Solar Heating and Cooling*

Department: Mgmt. & Business  
Program or Curriculum: Energy Management

## Sciences

Student Level: College Graduate  
 Topics Covered Extensively: Energy Storage; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

## Solar Systems Design

Department: Mgmt. & Business  
 Program or Curriculum: Energy Management Sciences

Student Level: College Graduate  
 Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

## Solar Thermal Storage

Department: Mgmt. & Business  
 Program or Curriculum: Energy Management Sciences

Student Level: College Graduate  
 Topics Covered Extensively: Appropriate Technology; Energy Storage; Passive Solar Technology

## Wind Systems

Department: Mgmt. & Business  
 Program or Curriculum: Energy Management Sciences

Student Level: College Graduate  
 Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems

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## HOUSTON BART UNIVERSITY

(3576)

HOUSTON, Texas 77074  
 (713) 778-2661

## SOLAR RELATED COURSES

## Natural Science

Instructor: Modisette, Jerry L.  
 Course Number: 1414/24  
 Department: Science  
 Credits: 6  
 Student Level: Freshman or Sophomore  
 Duration: 22 weeks, 6.0 hrs per week  
 Contact Hours: 132  
 Classroom: 88  
 Laboratory: 44  
 Number of Times Taught: 2  
 Average Enrollment: 100

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## NORTH TEXAS ST UNIVERSITY

(3594)

DENTON, Texas 76203  
 (817) 788-2026

## SOLAR RELATED COURSES

## Energy and Our Physical Environment

Instructor: Hehn, Jack  
 (817) 788-2626  
 Course Number: PHYS 308  
 Department: Arts & Sciences, Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 5  
 Average Enrollment: 21

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## OUR LADY OF LAKE U

(3598)

SAN ANTONIO, Texas 78285  
 (512) 434-6711

## SOLAR RELATED COURSES

## Owner Built Solar Air Heaters

Instructor: Nawrocki, David  
 (512) 822-9935  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 1 Weeks, 5.0 hrs per week  
 Contact Hours: 5  
 Classroom: 2  
 Laboratory: 3

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## RICE UNIVERSITY

(3604)

HOUSTON, Texas 77001  
 (713) 527-8101

## PROGRAMS AND CURRICULA

## Space Solar Power Research

Degree: PhD, MS,  
 Contact: Freeman, John W.  
 (713) 527-8101  
 Students Taking or Completing Offering:  
 Researcher



## SOLAR RELATED COURSES

*Solar Power*

Instructor: Bayazitoglu, Yildiz  
(713) 527-8101  
Course Number: 531  
Department: Mechanical Engineering,  
Materials Science  
Program or  
Curriculum: Space Solar Power  
Research  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Elec'l Generation, Small Scale; Space  
Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 22

*Space Util. and Industrialization*

Instructor: Freeman, J.  
(713) 527-8101  
Course Number: 488  
Department: Space Physics  
Program or  
Curriculum: Space Solar Power  
Research  
Credits: 3  
Student Level: Junior or Senior  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36

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SOUTHERN METH UNIVERSITY (3613)  
DALLAS, Texas 75275  
(214) 692-2000

## SOLAR RELATED COURSES

*Photovoltaic Solar Energy Conversion*

Instructor: Chu, Ting L.  
(214) 692-3014  
Course Number: EE 6395  
Department: Electrical Engineering  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Energy  
Conversion; Materials Research;  
Photovoltaics  
Number of Times Taught: 2  
Average Enrollment: 8

*Solar Energy Applications*

Instructor: Blum, Harold  
(214) 692-3498  
Course Number: TE 4391  
Department: Chem. Engineering

Credits: 3  
Student Level: Junior or Senior  
Duration: 5 Weeks, 9.0 hrs per week  
Contact Hours: 45  
Classroom: 39  
Laboratory: 6  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Systems Design;  
Domestic Hot Water; Process Heat,  
Agricultural; Process Heat, Industrial;  
Space Heating  
Number of Times Taught: 3  
Average Enrollment: 10

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STHUST TEX ST UNIVERSITY  
SAN MARCOS, Texas 78666  
(512) 245-2111

(3615)

## SOLAR RELATED COURSES

*Physical Sciences*

Instructor: Michalk, Victor E.  
(512) 245-2131  
Course Number: PHY 1314  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 48  
Laboratory: 16  
Average Enrollment: 30

*Physical Sciences*

Instructor: Michalk, Victor E.  
(512) 245-2131  
Course Number: PHY 1313  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 48  
Laboratory: 16  
Average Enrollment: 30

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TEXAS A&I UNIVERSITY  
KINGSVILLE, Texas 78363  
(512) 595-2111

(3639)

## SOLAR RELATED COURSES

*Environmental Chemistry*

Instructor: Beram, J. A.  
Course Number: 304  
Department: Chemistry  
Credits: 3  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Number of Times Taught: 4  
Average Enrollment: 15

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**TEXAS A&M U MAIN CAMPUS** (10366)  
**COLLEGE STATION, Texas 77843**  
 (713) 845-3211

#### PROGRAMS AND CURRICULA

##### *Graduate Program- Undergraduate Program*

**Degree:** PhD, MS, Mechanical Engineering

**Contact:** Jenkins, Peter E.  
 (713) 845-1251

**Students Taking or Completing Offerings:**  
 Educator, Researcher, Solar Engineer

#### SOLAR RELATED COURSES

##### *Advanced Solar Thermal Processes*

**Instructor:** Jenkins, Peter E.  
 (713) 845-1251

**Course Number:** 689  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45

**Topics Covered Extensively:** Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

**Number of Times Taught:** 1  
**Average Enrollment:** 25

##### *Alternative Architecture*

**Instructor:** Zweig, Peter  
 (713) 845-1015

**Course Number:** 645  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 3 Weeks, 16.0 hrs per week  
**Contact Hours:** 48  
**Number of Times Taught:** 2  
**Average Enrollment:** 15

##### *Applied Solar Energy*

**Instructor:** Jenkins, Peter E.  
 (713) 845-1251

**Course Number:** ME 462  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45

**Topics Covered Extensively:** Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar

Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Space Cooling

**Number of Times Taught:** 3  
**Average Enrollment:** 45

##### *Direct Energy Conversion*

**Instructor:** Jenkins, Peter E.  
 (713) 845-1251

**Course Number:** ME 473  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45

**Topics Covered Extensively:** Alternate Energy Sources; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

**Number of Times Taught:** 3  
**Average Enrollment:** 32

##### *Energy Optimization Techniques*

**Instructor:** Degelman, Larry O.  
 (713) 845-1015

**Course Number:** ARCH 689  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 40  
**Laboratory:** 5

**Topics Covered Extensively:** Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Space Heating

**Number of Times Taught:** 2  
**Average Enrollment:** 8

##### *Environmental Control Systems*

**Instructor:** Trost, F. J.  
 (713) 845-1017

**Course Number:** ARCH 633  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 40  
**Laboratory:** 5

**Topics Covered Extensively:** Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Space Heating

Average Enrollment: 15

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TEXAS AT ARLINGTON, U OF (3656)  
 ARLINGTON, Texas 76019  
 (817) 273-2011

## SOLAR RELATED COURSES

*Solar and Direct Energy Conversion*

Instructor: Darkazalli, Ghazi  
 (817) 273-2561  
 Course Number: 6319/4391  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 20

\*\*\*\*\*

TEXAS AT AUSTIN, U OF (3658)  
 AUSTIN, Texas 78712  
 (512) 471-3434

## PROGRAMS AND CURRICULA

*Solar-related Courses*

Degree: PhD, MA, BA, Architecture related  
 Contact: Arumi-Noe, Francisco  
 (512) 471-4911  
 Students Taking or Completing Offering: Architect

## SOLAR RELATED COURSES

*Applied Solar Energy*

Instructor: Vliet, Gary C.  
 (512) 471-7571  
 Course Number: ME 394J  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Classroom: 33  
 Laboratory: 6  
 Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 5  
 Average Enrollment: 20

*Appropriate Technology*

Instructor: Garrison, Michael  
 (512) 471-1922  
 Course Number: A 355  
 Department: Architecture  
 Program or Curriculum: Solar-related Courses  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Classroom: 72  
 Laboratory: 18  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 28

*Energy Reporting*

Instructor: Steenhiste, Richard Van  
 (512) 471-7700  
 Course Number: J365  
 Department: Journalism  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology  
 Number of Times Taught: 1  
 Average Enrollment: 8

*Energy Simulation in Architecture*

Instructor: Arumi-Noe, Francisco  
 (512) 471-4911  
 Course Number: 380M  
 Department: Architecture  
 Program or Curriculum: Solar-related Courses  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 3.0 hrs per week  
 Contact Hours: 39  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Space Heating; Space Cooling  
 Average Enrollment: 10

*Env. Con. Syst.-Ener. Cons. Design*

Instructor: Arumi-Noe, Francisco  
 (512) 471-4911  
 Course Number: 363  
 Department: Architecture  
 Program or Curriculum: Solar-related Courses  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 13 Weeks, 6.0 hrs per week  
 Contact Hours: 78  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;

Energy Conservation; Energy Conversion;  
Energy Storage; Heat and Energy  
Transfer; Intro. to Solar Energy;  
Materials Research; Passive Solar  
Technology; Photovoltaics; Solar System  
Components; Solar Economics; Solar Home  
Construction; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Domestic Hot Water; Swimming Pool  
Heating; Elec'l Generation, Central;  
Space Heating; Space Cooling; Wind  
Power, Central Systems; Wind Power,  
Small Systems  
Average Enrollment: 10

**Sol. Heat., Cool., Ener. Cons.-Bldgs.**  
Instructor: Vliet, G. Jones, J.  
(512) 471-7571  
Department: Continuing, Engineering  
Education  
Student Level: All levels  
Duration: 1 Weeks, 26.0 hrs per week  
Contact Hours: 26  
Classroom: 26  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Space Cooling  
Number of Times Taught: 4  
Average Enrollment: 15

**Solar Energy**  
Instructor: Amstead, R. H.  
(512) 471-1331  
Course Number: ME 378 M  
Department: ME  
Credits: 3  
Student Level: Junior or Senior  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy  
Number of Times Taught: 3  
Average Enrollment: 25

**Solar Technology Assessment**  
Instructor: Blissett, Marian  
(512) 471-4962  
Course Number: PA 882 A  
Department: LBJ School of Public  
Affairs  
Credits: 8  
Student Level: College Graduate  
Duration: 32 Weeks, 4.0 hrs per week  
Contact Hours: 128  
Classroom: 100  
Laboratory: 28  
Topics Covered Extensively: Appropriate  
Technology; Energy Conservation; Intro.  
to Solar Energy; Marketing/Market  
Analysis; Passive Solar Technology;  
Solar Economics; Solar Home  
Construction; Solar Law/Legislation;  
Domestic Hot Water; Process Heat,  
Agricultural; Process Heat, Industrial;  
Space Heating

Average Enrollment: 20

**Solar Thermal Power**  
Instructor: Amstead, R. H.  
(512) 471-1331  
Course Number: ME 379 M  
Department: ME  
Credits: 3  
Student Level: Junior or Senior  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Topics Covered Extensively: Appropriate  
Technology; Intro. to Solar Energy;  
Elec'l Generation, Central; Elec'l  
Generation, Small Scale  
Number of Times Taught: 30  
Average Enrollment: 28

**Survey: Environmental Control Systems**  
Instructor: Arumi-Noe, Francisco  
(512) 471-4911  
Course Number: 340M  
Department: Architecture  
Program or  
Curriculum: Solar-related courses  
Credits: 3  
Student Level: Junior or Senior  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Storage;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Solar Home Construction;  
Space Heating; Space Cooling  
Number of Times Taught: 8  
Average Enrollment: 25

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TEXAS AT DALLAS, U OF  
RICHARDSON, Texas 75080  
(214) 690-2111

#### PROGRAMS AND CURRICULA

**Sol. Ener. in Environ. Studs.**  
Degree: PHD, MS, Environmental  
Sciences  
Contact: Moore, Joe E.  
(214) 690-2970  
Students Taking or Completing Offering:  
Researcher, Solar Engineer

#### SOLAR RELATED COURSES

**Advanced Solar Energy**  
Instructor: Rapp, D.  
(214) 690-2974  
Course Number: ENEG6355  
Department: NSH/ES  
Program or  
Curriculum: Sol. Ener. in Environ.  
Studs.  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45

Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling  
 Number of Times Taught: 3  
 Average Enrollment: 8

**Energy**

Instructor: Rapp, D./ Fenyves, E.  
 (214) 690-2970  
 Course Number: EES354  
 Department: NSM/ES  
 Program or Curriculum: Sol. Ener. in Environ. Studs.

Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion  
 Number of Times Taught: 1  
 Average Enrollment: 30

**Energy Consumption-Resources & Impact**

Instructor: Fenyves, E.  
 Course Number: ENS330  
 Department: NSM/ES  
 Program or Curriculum: Sol. Ener. in Environ. Studs.

Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy  
 Number of Times Taught: 5  
 Average Enrollment: 20

**Solar Energy**

Instructor: Rapp, D.  
 (214) 690-2974  
 Course Number: ENEG347  
 Department: NSM/ES  
 Program or Curriculum: Sol. Ener. in Environ. Studs.

Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Domestic Hot Water; Space Heating  
 Number of Times Taught: 4  
 Average Enrollment: 15

**Solar Energy Laboratory**

Instructor: Rapp, D.  
 (214) 690-2970  
 Course Number: ENEG356

Department: NSM/ES  
 Program or Curriculum: Sol. Ener. in Environ. Studs.  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Laboratory: 90

Topics Covered Extensively: Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

Number of Times Taught: 1  
 Average Enrollment: 8

**Thermodynamics and Energy Conversion**

Instructor: Rapp, D.  
 (214) 690-2970  
 Course Number: ENEG6349  
 Department: NSM/ES  
 Program or Curriculum: Sol. Ener. in Environ. Studs.

Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Solar Energy Policy Development; Solar Systems Design; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Cooling

Number of Times Taught: 1  
 Average Enrollment: 11

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TEXAS AT EL PASO, U OF  
 EL PASO, Texas 79968  
 (915) 747-5000

(3661)

**PROGRAMS AND CURRICULA****Solar Energy Engineering**

Degree: MS, Science  
 Contact: Whitacre, John  
 (915) 747-5809

Students Taking or Completing Offering:  
 Solar Engineer

**SOLAR RELATED COURSES****Applications of Solar Energy**

Instructor: Whitacre, John  
 (915) 747-5450

Course Number: ME3456  
 Department: Mechanical Engineering  
 Program or Curriculum: Solar Energy Engineering

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45



Classroom: 45  
 Topics Covered Extensively: Heat and  
 Energy Transfer; Solar System  
 Components; Solar Systems Design; Space  
 Heating; Space Cooling

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TEXAS CHRISTIAN U (3636)  
 FORT WORTH, Texas 76129  
 (817) 926-2461

#### SOLAR RELATED COURSES

##### *Energy and the Future*

Instructor: Quarles, C. A.  
 (817) 921-7375  
 Course Number: 6413  
 Department: Physics  
 Credits: 3  
 Student Level: All levels  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conservation;  
 Solar Economics; Solar Collector  
 Evaluation; Design  
 Number of Times Taught: 2  
 Average Enrollment: 40

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TEXAS TECH UNIVERSITY (3644)  
 LUBBOCK, Texas 79409  
 (806) 742-2011

#### PROGRAMS AND CURRICULA

##### *Interdisciplinary Engineering*

Degree: Ph.D. Philosophy-Inter. Engr.  
 Contact: Gully, A. J.  
 (806) 742-3456

Students Taking or Completing Offering:  
 Researchers, Solar Engineer

#### SOLAR RELATED COURSES

##### *Energy and Housing*

Instructor: Kiesling, E. W.  
 (806) 742-3472  
 Department: Civ., Engr. Res. and  
 Coll. of Engr.  
 Program or  
 Curriculum: Interdisciplinary  
 Engineering  
 Student Level: College Graduate  
 Duration: 1 Weeks, 32.0 hrs per week  
 Contact Hours: 32  
 Classroom: 32  
 Topics Covered Extensively: Energy  
 Conservation; Intro. to Solar Energy;  
 Solar System Components; Solar  
 Economics; Solar Home Construction;  
 Solar Systems Design; Domestic Hot  
 Water; Space Heating

##### *Engr. Aspects-Res., Process., Util.*

Instructor: Parker, Harry W.  
 (806) 742-3553  
 Course Number: CH.E. 4333  
 Department: Chemical Engineering  
 Program or  
 Curriculum: Interdisciplinary  
 Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Biomass Conversion  
 Number of Times Taught: 4  
 Average Enrollment: 12

##### *Housing and Energy as Consumer Issues*

Instructor: McKown, Cora  
 (806) 742-3153  
 Course Number: 518  
 Department: Home Eco., Fam. Mgmt.,  
 Hous. Cons. Sci.  
 Program or  
 Curriculum: Interdisciplinary  
 Engineering  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 1 Weeks, 45.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Energy  
 Conservation; Marketing/Market Analysis  
 Number of Times Taught: 1  
 Average Enrollment: 25

##### *Interdis. Appr. Res. Energy Ed.*

Instructor: McKown, Cora  
 (806) 742-3153  
 Course Number: IS18  
 Department: Home Eco., Fam. Mgmt.,  
 Hous. Cons. Sci.  
 Program or  
 Curriculum: Interdisciplinary  
 Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 3 Weeks, 15.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Intro. to Solar  
 Energy; Marketing/Market Analysis;  
 Solar System Components; Solar  
 Economics; Solar Home Construction;  
 Solar Law/Legislation; Solar Systems  
 Design; Solar Systems Installation

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## TRINITY UNIVERSITY

(3647)

SAN ANTONIO, Texas 78284  
(512) 736-7011

## PROGRAMS AND CURRICULA

*Solar Energy Graduate Prog.*Degree: MS, Sci.-Appld. Sol. Ener. or  
Sol. Ener. Stud.Contact: Clark, Eugene  
(512) 736-7504Students Taking or Completing Offering:  
Researcher, Solar Engineer, Solar  
Technician

## SOLAR RELATED COURSES

*Economic Analysis of Energy and Capital Projects*Instructor: Dorner, Fred H.  
(512) 736-7238Course Number: BSN 390  
Department: Business Administration  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45Topics Covered Extensively: Alternate  
Energy Sources; Solar Economics; Elec'l  
Generation, Central; Space Cooling

Number of Times Taught: 1

Average Enrollment: 18

*Heat Transfer and Thermodynamics*Instructor: Andrews, Robert  
(512) 736-7512Course Number: ENGR 369G  
Department: Engineering Science  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer

Number of Times Taught: 3

Average Enrollment: 18

*Intro. to Solar Energy Applications*Instructor: Clark, Eugene  
(512) 736-7504Course Number: PHY 119  
Department: Physics  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 1  
Student Level: College Graduate  
Duration: 15 Weeks, 1.0 hrs per week  
Contact Hours: 15  
Classroom: 15Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Energy Conservation; Energy Storage;Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Domestic Hot Water;  
Space Heating

Number of Times Taught: 3

Average Enrollment: 15

*Modeling and Computer Analysis*Instructor: Treat, C. H.  
(512) 736-7512Course Number: ENGR 383S  
Department: Engineering Science  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45Topics Covered Extensively: Elec'l  
Generation, Central; Elec'l Generation,  
Small Scale; Process Heat, Industrial;  
Space Cooling

Number of Times Taught: 2

Average Enrollment: 15

*Photovoltaics*Instructor: Loxsom, Fred  
(512) 736-7421Course Number: PHYS 358G  
Department: Physics  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45Topics Covered Extensively: Energy  
Conversion; Photovoltaics; Solar  
Systems Design; Elec'l Generation,  
Small Scale

Number of Times Taught: 1

Average Enrollment: 10

*Physics of Solar Collectors*Instructor: Clark, Eugene  
(512) 736-7504Course Number: PHYS 356  
Department: Physics  
Program orCurriculum: Solar Energy Graduate  
Prog.Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Heat and Energy Transfer; Intro. to  
Solar Energy; Passive Solar Technology;  
Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Domestic Hot Water;  
Swimming Pool Heating; Elec'l  
Generation, Central; Elec'l Generation,

**Small Scale: Process Heat,**  
**Agricultural; Process Heat, Industrial;**  
**Space Heating; Space Cooling**  
**Number of Times Taught: 2**  
**Average Enrollment: 15**

#### **Solar and Atmospheric Radiation**

**Instructor:** Clark, Eugene  
 (512) 736-7504  
**Course Number:** PHYS 387  
**Department:** Physics  
**Program or Curriculum:** Solar Energy Graduate  
 Prog.  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Alternate  
 Energy Sources; Intro. to Solar Energy;  
 Solar Energy Policy Development; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Domestic Hot Water;  
 Swimming Pool Heating; Elec'l  
 Generation, Central; Elec'l Generation,  
 Small Scale; Process Heat,  
 Agricultural; Process Heat, Industrial;  
 Space Heating; Space Cooling  
**Number of Times Taught: 3**  
**Average Enrollment: 15**

#### **Solar Energy System Components**

**Instructor:** Treat, C. H.  
 (512) 736-7512  
**Course Number:** ENGR 362G  
**Department:** Engineering  
**Program or Curriculum:** Solar Energy Graduate  
 Prog.  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Heat and  
 Energy Transfer; Marketing/Market  
 Analysis; Materials Research; Solar  
 System Components; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Testing and  
 Evaluation; Domestic Hot Water;  
 Swimming Pool Heating; Elec'l  
 Generation, Central; Elec'l Generation,  
 Small Scale; Process Heat,  
 Agricultural; Process Heat, Industrial;  
 Space Heating; Space Cooling  
**Number of Times Taught: 2**  
**Average Enrollment: 10**

#### **Solar Energy System Design**

**Instructor:** Treat, C. H.  
 (512) 736-7512  
**Course Number:** ENGR 395S  
**Department:** Engineering Science  
**Program or Curriculum:** Solar Energy Graduate  
 Prog.  
**Credits:** 3  
**Student Level:** College Graduate

**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Solar System  
 Components; Solar Economics; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems Testing and  
 Evaluation; Domestic Hot Water;  
 Swimming Pool Heating; Elec'l  
 Generation, Central; Elec'l Generation,  
 Small Scale; Process Heat,  
 Agricultural; Process Heat, Industrial;  
 Space Heating; Space Cooling  
**Number of Times Taught: 2**  
**Average Enrollment: 12**

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#### **U OF HOUSTON CEN CAMPUS**

(3652)

HOUSTON, Texas 77004  
 (713) 749-2214

#### **SOLAR RELATED COURSES**

##### **Man, Architecture and Energy**

**Instructor:** Kay, George E.  
 (713) 749-1188  
**Course Number:** 430T  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 42  
**Classroom:** 42  
**Topics Covered Extensively:** Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Intro. to Solar  
 Energy; Passive Solar Technology; Solar  
 System Components; Solar Economics;  
 Solar Home Construction; Space Heating;  
 Space Cooling  
**Number of Times Taught: 3**  
**Average Enrollment: 15**

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#### **WEST TEXAS ST UNIVERSITY**

(3665)

CANYON, Texas 79016  
 (806) 656-0111

#### **SOLAR RELATED COURSES**

##### **Solar Energy: Res. and Rural Systems**

**Instructor:** Nelson, Vaughn  
 (806) 656-3904  
**Course Number:** 39901-1  
**Department:** Physics  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 17 Weeks, 3.0 hrs per week  
**Contact Hours:** 51  
**Classroom:** 51  
**Topics Covered Extensively:** Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Intro. to Solar Energy;  
 Domestic Hot Water; Space Heating; Wind

**Power, Small Systems****Wind Energy and Wind Turbines**

Instructor: Nelson, Vaughn  
(806) 656-3904  
Course Number: 39902-1  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Classroom: 51  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems Design; Wind Power, Small Systems

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**Community/Junior Colleges**

**CENTRAL TEXAS COLLEGE** (4003)  
KILLEEN, Texas 76541  
(817) 526-1211

**PROGRAMS AND CURRICULA****Solar Energy Systems Specialist**

Degree: Certificate of Completion  
Contact: Tresler, Clarence  
(817) 526-1236

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Solar Technician, Trade Specialty

**Solar Energy Systems Technology**

Degree: AD, Applied Science  
Contact: Tresler, Clarence  
(817) 526-1236

Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar System),  
Solar Technician, Trade Specialty

**SOLAR RELATED COURSES****Principles of Solar Energy**

Instructor: Tresler, Clarence  
(817) 526-1236  
Course Number: SESY 1314  
Department: Industrial Technology  
Program or Curriculum: Solar Energy Systems Technology/ Solar Energy Systems Specialist  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Intro. to

**Solar Energy**

Number of Times Taught: 2  
Average Enrollment: 25

**Solar Cooling Systems**

Instructor: Tresler, Clarence  
(817) 526-1236  
Course Number: SESY 241  
Department: Industrial Technology  
Program or Curriculum: Solar Energy Systems Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 48  
Laboratory: 48  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

**Solar Energy Special Projects**

Instructor: Tresler, Clarence  
(817) 523-1236  
Course Number: SESY 231  
Department: Industrial Technology  
Program or Curriculum: Solar Energy Systems Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 16  
Laboratory: 80  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

**Solar Heating Systems**

Instructor: Tresler, Clarence  
(817) 526-1236  
Course Number: SESY 141  
Department: Industrial Technology  
Program or Curriculum: Solar Energy Systems Technology/ Solar Energy Systems Specialist  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Classroom: 48  
Laboratory: 48



Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
 Number of Times Taught: 2  
 Average Enrollment: 25

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GRAYSON CO JUNIOR COLLEGE (3570)  
 DENISON, Texas 75020  
 (214) 465-6030

#### SOLAR RELATED COURSES

##### Energy Resources

Instructor: Roberts, John H.  
 (214) 456-6030  
 Course Number: SCI 134  
 Department: Engineering/Science  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy  
 Number of Times Taught: 1  
 Average Enrollment: 15

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LEE COLLEGE (3583)  
 BAYTOWN, Texas 77520  
 (713) 427-5611

#### SOLAR RELATED COURSES

##### Environmental Science

Instructor: Lehmberg, Verne  
 (713) 427-5691  
 Course Number: BIO 413  
 Department: Science  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Classroom: 45  
 Laboratory: 45  
 Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Solar Collector Evaluation/Design

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NAVARRO COLLEGE (3593)  
 CORSICANA, Texas 75110  
 (214) 874-6501

#### PROGRAMS AND CURRICULA

##### Solar Energy Installers/Mechanics

Degree: OTHER, Solar Energy  
 Installers, Mechanics  
 Contact: Kasprzyk, Ernest  
 (214) 874-6501

Students Taking or Completing Offering:  
 Installer-Residential (Solar System),  
 Installer-Commercial (Solar System)

##### Solar Engineering Technology

Degree: AD, Appl. Sci.-Sol. Engin.  
 Tech.  
 Contact: Myers, Arthur  
 (214) 874-6501

Students Taking or Completing Offering:  
 Solar Technician

#### SOLAR RELATED COURSES

##### Collector and Energy Storage

Instructor: Myers, Arthur  
 (214) 874-6501

Program or Curriculum: Solar Engineering Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 6.0 hrs per week  
 Contact Hours: 96  
 Classroom: 32  
 Laboratory: 64

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

##### Collectors, Ener. Stor., Inst. and Serv.

Instructor: Norman, Albion  
 (214) 874-6501  
 Course Number: SE1044

Program or Curriculum: Solar Energy Installers/ Mechanics  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 6.0 hrs per week  
 Contact Hours: 96  
 Classroom: 32  
 Laboratory: 64

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Sheet Metal



**Techniques; Solar System Components;**  
**Solar Collector Evaluation/Design;**  
**Solar Systems Design; Solar Systems**  
**Installation; Solar Systems**  
**Maintenance; Solar Systems Testing and**  
**Evaluation; Domestic Hot Water; Space**  
**Heating; Space Cooling**

**Economics, Codes, Legal, Consumerism**

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 2  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 2.0 hrs per week  
**Contact Hours:** 32  
**Classroom:** 32  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Marketing/Market Analysis; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

**Energy Science I**

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 6.0 hrs per week  
**Contact Hours:** 96  
**Classroom:** 48  
**Laboratory:** 48  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

**Energy Science II**

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 6.0 hrs per week  
**Contact Hours:** 96  
**Classroom:** 48  
**Laboratory:** 48  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology;

**Energy Conservation; Energy Conversion;**  
**Energy Storage; Heat and Energy**  
**Transfer; Intro. to Solar Energy;**  
**Plumbing Techniques; Sheet Metal**  
**Techniques; Solar System Components;**  
**Solar Systems Design; Solar Systems**  
**Installation; Solar Systems**  
**Maintenance; Domestic Hot Water; Space**  
**Heating; Space Cooling**

**Intro. to Solar Heating and Cooling**

**Instructor:** Norman, Albion  
 (214) 874-6501  
**Course Number:** SE1013  
**Department:** Occupational Education  
**Program or Curriculum:** Solar Energy Installers/ Mechanics  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Classroom:** 48  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 23

**Materials and Fabrication**

**Instructor:** Vaughn, Ralph  
 (214) 874-6501  
**Course Number:** SE1034  
**Department:** Occupational Education  
**Program or Curriculum:** Solar Energy Installers/ Mechanics  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 6.0 hrs per week  
**Contact Hours:** 96  
**Classroom:** 32  
**Laboratory:** 64  
**Topics Covered Extensively:** Energy Storage; Heat and Energy Transfer; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

**Materials and Material Handling**

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 5.0 hrs per week

**Contact Hours:** 80  
**Classroom:** 16  
**Laboratory:** 64  
**Topics Covered Extensively:** Materials Research; Plumbing Techniques; Sheet Metal Techniques; Domestic Hot Water; Space Heating; Space Cooling

#### *Non-residential Appl. and Future Tech.*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 5.0 hrs per week  
**Contact Hours:** 80  
**Classroom:** 32  
**Laboratory:** 48

**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

#### *Operational Diagnosis*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 5.0 hrs per week  
**Contact Hours:** 80  
**Classroom:** 32  
**Laboratory:** 48

**Topics Covered Extensively:** Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

#### *Sizing Design and Retrofit*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 6.0 hrs per week  
**Contact Hours:** 96  
**Classroom:** 48  
**Laboratory:** 48  
**Topics Covered Extensively:** Solar Home Construction; Solar Systems Design;

Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

#### *Solar Heating and Cooling Systems*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Course Number:** SE1064  
**Department:** Occupational Education  
**Program or Curriculum:** Solar Energy Installers/ Mechanics  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 6.0 hrs per week  
**Contact Hours:** 96  
**Classroom:** 32  
**Laboratory:** 64

**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

**Average Enrollment:** 15

#### *Solar Practicum*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Laboratory:** 48

**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

#### *Technical Surveys of Energy Sources*

**Instructor:** Myers, Arthur  
 (214) 874-6501  
**Department:** Solar Energy  
**Program or Curriculum:** Solar Engineering Technology  
**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48

**Classroom: 48**

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

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**NORTH LAKE COLLEGE**  
IRVING, Texas 75062  
(214) 255-5229

(29066)

**PROGRAMS AND CURRICULA****Solar Energy Technician**

Degree: AD, Solar Technology  
Contact: Knowles, Jim  
(214) 255-5325

Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****Energy Science I**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 96  
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer

**Future Technology**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Cooling

**Introduction to Solar**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology

**Program or**

Curriculum: Solar Energy Technician  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 32  
Topics Covered Extensively: Energy Conservation; Passive Solar Technology

**Materials/Material Handling**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 5.0 hrs per week  
Contact Hours: 80  
Classroom: 16  
Laboratory: 64  
Topics Covered Extensively: Plumbing Techniques; Sheet Metal Techniques

**Operational Diagnosis**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32  
Topics Covered Extensively: Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation

**Sizing Design and Retrofit**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 7.0 hrs per week  
Contact Hours: 112  
Classroom: 48  
Laboratory: 64  
Topics Covered Extensively: Solar Systems Design; Solar Systems Installation

**Solar Codes and Consumerism**

Instructor: Knowles, J.  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 2.0 hrs per week  
Contact Hours: 32  
Classroom: 32

**Topics Covered Extensively:**

Marketing/Market Analysis; Solar Energy  
Policy Development; Solar Economics;  
Solar Law/Legislation

**Solar Practicum**

Instructor: Knowles, Jim  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 5.0 hrs per week  
Contact Hours: 80

**Technical Survey of Energy Sources**

Instructor: Knowles, J.  
(214) 255-5260  
Department: Science/Math/Technology  
Program or Curriculum: Solar Energy Technician  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks  
Topics Covered Extensively: Alternate  
Energy Sources; Biomass Conversion;  
Energy Conservation; Energy Conversion;  
Wind Power; Central Systems

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**ODESSA COLLEGE**

(3596)

ODESSA, Texas 79760  
(915) 337-5381

**PROGRAMS AND CURRICULA****Solar Power**

Contact: Witcher, Norman  
(915) 337-5381

Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****Solar Power**

Instructor: Witcher, Norman  
(915) 337-5381  
Course Number: R/AC 2300  
Department: Refrigeration & Air  
Conditioning  
Program or Curriculum: Solar Power  
Credits: 6  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 10.0 hrs per week  
Contact Hours: 160  
Classroom: 48  
Laboratory: 112  
Topics Covered Extensively: Appropriate  
Technology; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Systems Design; Solar Systems  
Installation; Solar Systems  
Maintenance; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 38

**RANGER JUNIOR COLLEGE**

(3603)

RANGER, Texas 76470  
(817) 647-3234

**PROGRAMS AND CURRICULA****A/C and Refrig. - Sol. Ener. Option**

Degree: AD, Applied Science  
Contact: Stiles, Alton  
(817) 647-3234

Students Taking or Completing Offering:  
Solar Technician

**SOLAR RELATED COURSES****Air Cond. and Ref. VII**

Course Number: AR 281  
Department: Air Cond. & Ref.  
Program or Curriculum: A/C and Refrig. - Sol.  
Ener. Option  
Credits: 6

Student Level: Freshman or Sophomore  
Topics Covered Extensively: Heat and  
Energy Transfer; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Space Heating; Space Cooling

**Fundamentals of Solar Heat and Cool.**

Course Number: AR 263  
Department: Air Cond. & Refrig  
Program or Curriculum: A/C and Refrig. - Sol.  
Ener. Option  
Credits: 6

Student Level: Freshman or Sophomore  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Collector Evaluation/Design; Solar  
Systems Design; Space Heating; Space  
Cooling

**Solar Thermal Energy Systems**

Instructor: Stiles, Alton  
(817) 647-3234  
Course Number: AR 264  
Department: Air  
Conditioning/Refrigerat  
ion

Program or Curriculum: A/C and Refrig. - Sol.  
Ener. Option  
Credits: 6  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 10.0 hrs per week  
Contact Hours: 160  
Classroom: 12  
Laboratory: 128

Topics Covered Extensively: Plumbing  
Techniques; Solar System Components;  
Solar Collector Evaluation/Design;  
Solar Systems Design; Solar Systems



**Installation: Solar Systems**

Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Space Cooling

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**TYLER JUNIOR COLLEGE**

(3648)

TYLER, Texas 75701  
(214) 597-4281

**PROGRAMS AND CURRICULA****Air Conditioning & Refrig. Tech.**

Degree: AD, Applied Science  
Contact: Minter, Richard T.  
(214) 593-4401

Students Taking or Completing Offering:  
Trade Specialty

**SOLAR RELATED COURSES****Introduction to Solar Systems**

Instructor: Robinson, Carol T.  
(214) 592-8619

Course Number: AC 113S

Department: Technology

Program or Curriculum: Air Conditioning & Refrig. Tech.

Credits: 3

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Classroom: 48

Topics Covered Extensively: Intro. to Solar Energy

Average Enrollment: 31

**Solar Systems Installation**

Instructor: Robinson, Carol T.  
(214) 592-8619

Course Number: AC 223S

Department: Technology

Program or Curriculum: Air Conditioning & Refrig. Tech.

Credits: 3

Student Level: Freshman or Sophomore

Duration: 16 Weeks, 6.0 hrs per week

Contact Hours: 96

Classroom: 32

Laboratory: 64

Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Average Enrollment: 18

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**Vocational/Technical Colleges**

TEX. ST. TECH. RIO GRANDE  
HARLINGEN, Texas 78550  
(512) 425-4922

(9225)

**SOLAR RELATED COURSES****Solar Receivers**

Instructor: Vogel, Harold  
(512) 425-4922

Course Number: ACT214

Department: Air Cond. and Refrigeration Tech.

Credits: 2

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 2.0 hrs per week

Contact Hours: 24

Classroom: 12

Laboratory: 12

Topics Covered Extensively: Energy Conversion; Energy Storage; Plumbing Techniques; Solar System Components; Solar Systems Installation; Domestic Hot Water; Space Heating

Number of Times Taught: 1

Average Enrollment: 18

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**TEXAS STATE TECHNICAL INSTITUTE**

(90480)

Sweetwater, Texas 79556

**SOLAR RELATED COURSES****\*Training Course**

Department: Continuing Education

Contact Hours: 48

Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

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**Other Educational Institutions**

TRI-COLLEGE CONTINUING  
EDUCATION/VOCATIONAL TECHNICAL  
TRAINING

(90130)

Abilene, Texas 79604

**SOLAR RELATED COURSES****Solar Energy**

Instructor: Hoggson, John  
(915) 698-3096

Department: Continuing Education

Student Level: All Levels

Duration: 7 Weeks, 2.0 hrs per week

Contact Hours: 14

Classroom: 14

Topics Covered Extensively: Energy



Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Solar System  
Components; Solar Systems Design; Solar  
Systems Installation; Solar Systems  
Maintenance; Space Heating

Number of Times Taught: 1

Average Enrollment: 11

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## Colleges/Universities

UTAH STATE UNIVERSITY (3677)  
LOGAN, Utah 84322  
(801) 752-4100

## SOLAR RELATED COURSES

## Biometeorology Instruments

Instructor: Dirmhirn  
(801) 752-4100  
Course Number: 652  
Department: Agri/Soil Sci. and  
Biometeorology  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 9  
Laboratory: 27  
Topics Covered Extensively: Appropriate  
Technology; Heat and Energy Transfer;  
Intro. to Solar Energy; Photovoltaics  
Number of Times Taught: 5  
Average Enrollment: 9

## Biometeorology

Instructor: Dirmhirn/ Hanks/  
Wooldridge  
(801) 752-4100  
Course Number: 709  
Department: Agri./Soil Sci. and  
Biometeorology  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Appropriate  
Technology; Heat and Energy Transfer;  
Intro. to Solar Energy; Photovoltaics  
Number of Times Taught: 5  
Average Enrollment: 10

## Environmental Remote Sensing

Instructor: Dirmhirn, I./ Baker, K.  
(801) 725-7100  
Course Number: 707  
Department: Soil Sci. & Biomet.  
Agriculture  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Appropriate  
Technology; Heat and Energy Transfer;  
Intro. to Solar Energy; Photovoltaics  
Number of Times Taught: 4  
Average Enrollment: 8

## Environmental Field Experiments

Instructor: Dirmhirn  
(801) 752-4100  
Course Number: 693  
Department: Agri/Soil Sci. and  
Biometeo  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week

Contact Hours: 36

Classroom: 9  
Laboratory: 27  
Topics Covered Extensively: Appropriate  
Technology; Heat and Energy Transfer;  
Intro. to Solar Energy; Photovoltaics  
Number of Times Taught: 4  
Average Enrollment: 9

## Instrumentation Lab

Instructor: Dirmhirn  
(801) 752-4100  
Course Number: 752  
Department: Agri/Soil Sci. and  
Biometeo.  
Credits: 3  
Student Level: College Graduate  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 9  
Laboratory: 27  
Topics Covered Extensively: Appropriate  
Technology; Heat and Energy Transfer;  
Intro. to Solar Energy; Photovoltaics  
Number of Times Taught: 4  
Average Enrollment: 8

## Solar Energy Systems

Instructor: Phillips, W.F.  
(801) 752-4100  
Course Number: ME546  
Department: Mech. Engrg.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30  
Classroom: 30  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Intro. to Solar Energy; Solar System  
Components; Solar Collector  
Evaluation/Design; Solar Systems Design  
Number of Times Taught: 1  
Average Enrollment: 12

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UTAH, UNIVERSITY OF (3675)  
SALT LAKE CITY, Utah 84112  
(801) 581-7211

## SOLAR RELATED COURSES

## Energy Conversion

Instructor: Baghm, R. F.  
(801) 581-6441  
Course Number: ME 561  
Department: Engin., Mech. and  
Indus. Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion  
Number of Times Taught: 10  
Average Enrollment: 35

**Solar Building Design**

Instructor: Boehm, R. F.  
(801) 581-6441  
Department: Engin., Mech. and Indus. Engineering  
Student Level: College Graduate  
Duration: 1 Weeks, 10.0 hrs per week  
Contact Hours: 10  
Classroom: 10  
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Systems Design; Space Heating

**Thermal Applications of Solar Energy**

Instructor: Boehm, R. F.  
(801) 581-6441  
Course Number: ME 563  
Department: Engin., Mech. and Indus. Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 9 Weeks, 4.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation/Design  
Number of Times Taught: 1  
Average Enrollment: 25

**Thermal Systems Design**

Instructor: Boehm, R. F.  
(801) 581-6441  
Course Number: ME 562  
Department: Engin., Mech. and Indus. Engineering  
Credits: 4  
Student Level: Junior or Senior  
Duration: 9 Weeks, 4.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Number of Times Taught: 6  
Average Enrollment: 21

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**KEEER STATE COLLEGE**

(3680)

OGDEN, Utah 84408  
(801) 399-5941

**SOLAR RELATED COURSES**

**\*Solar Energy & Bldgs.**

Instructor: Capener, Robert  
Department: Physic Dept.

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**Community/Junior Colleges**

**DIXIE COLLEGE**

(3671)

SAINT GEORGE, Utah 84770  
(801) 673-4811

**PROGRAMS AND CURRICULA**

**Solar Technology**

Degree: Certificate of Completion  
Contact: Hacking, John  
(801) 673-4811

**SOLAR RELATED COURSES**

**Intro. to Applied Solar Energy**

Instructor: Tait, Don  
(801) 673-4811  
Course Number: ST 150  
Department: Engineering Tech.  
Program or Curriculum: Solar Technology  
Credits: 4  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 5.0 hrs per week  
Contact Hours: 55  
Classroom: 55  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Materials Research; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 12  
Average Enrollment: 20

**Solar Energy-Home Use Appls.**

Instructor: Tait, Don  
(801) 673-4811  
Course Number: ST 123  
Department: Engineering Tech.  
Program or Curriculum: Solar Technology  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 16  
Laboratory: 15

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 9  
Average Enrollment: 18

## Vocational/Technical Colleges

UTAH TECH COLLEGE SALT LK  
SALT LAKE CITY, Utah 84107  
(801) 299-3411

(5220)

## SOLAR RELATED COURSES

## Alternate Energy

Instructor: Ingram, William W.  
(801) 969-3411  
Course Number: ADT 057E  
Department: Architect  
Student Level: All levels  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 20  
Laboratory: 20  
Topics Covered Extensively: Energy  
Conservation; Intro. to Solar Energy;  
Passive Solar Technology; Process Heat,  
Agricultural; Process Heat, Industrial  
Number of Times Taught: 2  
Average Enrollment: 22

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## Colleges/Universities

**OODARD COLLEGE**  
PLAINFIELD, Vermont  
(802) 454-8311

(3686)

## PROGRAMS AND CURRICULA

*\*Social Ecology*

Contact: Brookchin, Murray

## SOLAR RELATED COURSES

*\*Dwelling Solar Processes*

Instructor: Park, J./ Troia, G.

Program or

Curriculum: \*Social Ecology

Duration: 11 Weeks, 6.0 hrs per week

Contact Hours: 66

Topics Covered Extensively: Energy

Conversion; Heat and Energy Transfer;

Intro. to Solar Energy; Solar Collector

Evaluation/Design; Solar Systems

Design; Space Heating

*\*Energy Efficient Shelter*

Instructor: Langdon, Bill

Program or

Curriculum: \*Social Ecology

Duration: 11 Weeks, 2.0 hrs per week

Contact Hours: 22

Topics Covered Extensively: Solar

Collector Evaluation/Design; Solar

Systems Design

*\*Shelter Workshop*

Instructor: Langdon, B./ Higgins, A.

Program or

Curriculum: \*Solar Ecology

Duration: 11 Weeks, 4.0 hrs per week

Contact Hours: 44

Topics Covered Extensively: Solar Home

Construction

*\*Solar Workshop*

Instructor: Troia, Gene

Program or

Curriculum: \*Social Ecology

Duration: 11 Weeks, 2.0 hrs per week

Contact Hours: 22

Topics Covered Extensively: Solar

Collector Evaluation/Design; Solar

Systems Design; Solar Systems Testing

and Evaluation

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**MARLBORO COLLEGE**  
MARLBORO, Vermont  
(802) 254-2393

(3690)

## PROGRAMS AND CURRICULA

*Solar Energy Program*

Degree: BS, Environmental Science

Contact: Hayes, John W.  
(802) 254-2393

## SOLAR RELATED COURSES

*Solar Energy & Building Design*

Instructor: Hayes, John W.  
(802) 254-2393

Department: Science

Program or

Curriculum: Solar Energy Program

Credits: 3

Student Level: Freshman or Sophomore

Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42

Classroom: 42

Topics Covered Extensively: Energy

Conservation; Energy Storage; Heat and

Energy Transfer; Intro. to Solar

Energy; Passive Solar Technology; Solar

Economics; Solar Systems Design;

Domestic Hot Water; Space Heating

Number of Times Taught: 1

Average Enrollment: 25

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**MIDDLEBURY COLLEGE**

(3691)

MIDDLEBURY, Vermont  
(802) 388-4948

## PROGRAMS AND CURRICULA

*Senior Work in Solar Energy*

Degree: BA, Physics, Environmental  
Studies, Physics

Contact: Wolfson, Richard  
(802) 388-7956

Students Taking or Completing Offering:  
Educator, Researcher

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**SAINT MICHAEL'S COLLEGE**

(3694)

WINDSOR, Vermont  
(802) 655-2000

## SOLAR RELATED COURSES

*The Energy Crisis*

Instructor: Casavant, Dominique P.  
(802) 655-2000

Course Number: 131

Department: Physics

Credits: 3

Student Level: Freshman or Sophomore

Duration: 12 Weeks, 3.0 hrs per week

Contact Hours: 36

Classroom: 36

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## Community/Junior Colleges



Vermont

Solar Energy Research Institute

VERMONT, CNTY COLLEGE OF  
MONTPELIER, Vermont  
(802) 828-2481

(111672)

SOLAR RELATED COURSES

*Alternative Energy*

Student Level: All levels  
Duration: 3 Weeks, 12.0 hrs per week  
Contact Hours: 36  
Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy;  
Passive Solar Technology  
Number of Times Taught: 3  
Average Enrollment: 10

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## Colleges/Universities

## FERRUM COLLEGE

(3711)

FERRUM, Virginia 24088  
(703) 365-2121

## PROGRAMS AND CURRICULA

## Energy Technology

Degree: BS,

Contact: Bier, James/ Talbert, Roy

(703) 365-2121

Students Taking or Completing Offering:  
Solar Technician

## SOLAR RELATED COURSES

## Energy

Instructor: Bier, James  
(703) 365-2121

Course Number: 414

Department: Environmental studies

Program or

Curriculum: Energy Technology

Credits: 4

Student Level: Junior or Senior

Duration: 15 Weeks, 5.0 hrs per week

Contact Hours: 75

Classroom: 45

Laboratory: 30

Topics Covered Extensively: Energy

Conservation; Space Heating

Number of Times Taught: 1

Average Enrollment: 20

## LYNCHBURG COLLEGE

(3720)

LYNCHBURG, Virginia 24501  
(804) 845-9071

## SOLAR RELATED COURSES

## Solar Energy

Instructor: Sigler, J.A.  
(804) 845-9171

Course Number: 538

Department: Physics

Credits: 3

Student Level: College Graduate

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Classroom: 45

Topics Covered Extensively: Appropriate

Technology; Energy Storage; Heat and

Energy Transfer; Intro. to Solar

Energy; Materials Research;

Photovoltaics; Solar System Components;

Solar Collector Evaluation/Design;

Elec'l Generation, Central; Elec'l

Generation, Small Scale; Space Heating

Number of Times Taught: 1

Average Enrollment: 10

## OLD DOMINION UNIVERSITY

(3728)

NORFOLK, Virginia 23508  
(804) 489-6000

## PROGRAMS AND CURRICULA

## Power/Energy Conversion Option

Degree: PhD, MS, BS, Mechanical

Engineering

Contact: Gaglia, G. L.

(804) 489-6485

Students Taking or Completing Offering:  
Researcher, Solar Engineer, Other

## Solar Energy Systems

Degree: BS, OT,

Contact: Crossman, Gary R.

(804) 489-6574

## SOLAR RELATED COURSES

## Air Conditioning Systems

Instructor: Ferrari, R.E.  
(804) 489-6574

Course Number: MET 470

Department: Engineering/Mechan.  
Engr. Tech.

Program or

Curriculum: Solar Energy Systems

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Classroom: 45

Topics Covered Extensively: Heat and  
Energy Transfer; Space Heating; Space  
Cooling

Number of Times Taught: 20

Average Enrollment: 20

## Energy Conversion

Instructor: Kovner, E.A.  
(804) 489-6574

Course Number: MET 480

Department: Engineering/Mechan.  
Engr. Tech.

Program or

Curriculum: Solar Energy Systems

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Classroom: 45

Topics Covered Extensively: Energy  
Conversion; Heat and Energy Transfer;  
Photovoltaics; Elec'l Generation, Small  
Scale

Number of Times Taught: 6

Average Enrollment: 20

## Energy Conversion

Instructor: Roberts, A. S.  
(804) 489-6485

Course Number: ENME4513

Department: Mechanical Engineering  
and Mechanics

Program or

Curriculum: Power/ Energy

Conversion Option

Credits: 3

Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Laboratory: 0

Topics Covered Extensively: Alternate  
 Energy Sources; Energy Conversion;  
 Photovoltaics; Elec'l Generation, Small  
 Scale  
 Number of Times Taught: 8  
 Average Enrollment: 12

**Energy Systems**

Instructor: Deal, Walter F.  
 (804) 489-6461

Course Number: ECE-3  
 Department: Vocational and  
 Industrial Arts  
 Education

Program or  
 Curriculum: Power/ Energy  
 Conversion Option

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Laboratory: 45

Topics Covered Extensively: Energy  
 Conversion; Intro. to Solar Energy;  
 Solar Collector Evaluation/Design;  
 Solar Systems Testing and Evaluation;  
 Domestic Hot Water

Number of Times Taught: 4  
 Average Enrollment: 15

**Environmental Control**

Instructor: Roberts, A.S.  
 (804) 489-6485

Course Number: ENME 4/512  
 Department: Mechanical Engineering  
 and Mechanics

Program or  
 Curriculum: Power/ Energy  
 Conversion Option

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Energy  
 Conservation; Energy Conversion; Heat  
 and Energy Transfer; Intro. to Solar  
 Energy

Number of Times Taught: 4  
 Average Enrollment: 15

**Power and Energy Laboratory**

Instructor: Crossman, G.R.  
 (804) 489-6574

Course Number: MET 465/465  
 Department: Engineering/Mechan.  
 Engr. Tech.

Program or  
 Curriculum: Solar Energy Systems  
 Credits: 2  
 Student Level: All levels  
 Duration: 30 Weeks, 3.0 hrs per week  
 Contact Hours: 90  
 Laboratory: 90

Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer  
 Number of Times Taught: 20  
 Average Enrollment: 15

**Refrigeration Systems**

Instructor: Kovner, E.A.  
 (804) 489-6574

Course Number: MET 460  
 Department: Engineering/Mechan.  
 Engr. Tech.

Program or  
 Curriculum: Solar Energy Systems  
 Credits: 3

Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Heat and  
 Energy Transfer; Space Cooling  
 Number of Times Taught: 20  
 Average Enrollment: 20

**Solar Energy Systems 490**

Instructor: Crossman, G.R.  
 (804) 489-6574

Course Number: MET 490  
 Department: Engineering/Mechan.  
 Engr. Tech.

Program or  
 Curriculum: Solar Energy Systems  
 Credits: 3

Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Solar Systems Installation;  
 Domestic Hot Water

**Solar Power Engineering**

Instructor: Roberts, A. Sidney  
 (804) 489-6465

Course Number: ENME 4/516  
 Department: Mechanical Engineering  
 and Mechanics

Program or  
 Curriculum: Power/ Energy  
 Conversion Option

Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45

Topics Covered Extensively: Energy  
 Conversion; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Collector  
 Evaluation/Design; Solar Systems  
 Design; Domestic Hot Water; Space  
 Heating

Number of Times Taught: 3  
 Average Enrollment: 15

**Thermal Power Systems**

Instructor: Kovner, E.A.  
(804) 489-6574  
Course Number: MET 450  
Department: Engineering/Mechan.  
Engr Tech.  
Program or Curriculum: Solar Energy Systems  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Heat and Energy Transfer  
Number of Times Taught: 10  
Average Enrollment: 20

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VA POLY INST AND STATE U (3754)  
BLACKSBURG, Virginia 24061  
(703) 951-6000

**SOLAR RELATED COURSES****Building Systems Technology**

Instructor: Schubert, B.P.  
(703) 961-5512  
Department: Architecture and Urban  
Studies  
Credits: 9  
Student Level: College Graduate  
Duration: 27 Weeks, 3.0 hrs per week  
Contact Hours: 81  
Classroom: 54  
Laboratory: 27  
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 40

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VIRGINIA COMMONWEALTH U (3735)  
RICHMOND, Virginia 23284  
(804) 770-6472

**SOLAR RELATED COURSES****General Energy Education Workshop**

Instructor: Honnold, J. A./ Nelson, L. D.  
(804) 257-1028  
Course Number: EDU 651  
Department: Sociology  
Credits: 3  
Student Level: College Graduate  
Duration: 2 Weeks, 22.0 hrs per week  
Contact Hours: 44  
Classroom: 44  
Topics Covered Extensively: Alternate

**Energy Sources**

Number of Times Taught: 1  
Average Enrollment: 43

**Natural Resources and Society**

Instructor: Honnold, J. A./ Nelson, L. D.  
(804) 257-1028  
Course Number: SOC 355  
Department: Sociology and Anthropology  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources  
Number of Times Taught: 1  
Average Enrollment: 10

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VIRGINIA MAIN CAMPUS, U OF (6968)  
CHARLOTTESVILLE, Virginia 22903  
(804) 924-0311

**SOLAR RELATED COURSES****Solar Energy - The Ultimate Resource**

Instructor: Lilleleht, L.U.  
(804) 924-7778  
Course Number: ENGR 120  
Department: Chem. Eng., Eng. & Applied Science  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 7 Weeks, 6.0 hrs per week  
Contact Hours: 42  
Classroom: 7  
Laboratory: 35  
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 35

**Solar Energy Conversion and Appl.**

Instructor: Iachetta, F. A.  
(804) 924-7421  
Course Number: ME 520  
Department: Mech. and Aerospace Engr.  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42  
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design  
Number of Times Taught: 2  
Average Enrollment: 23

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**VIRGINIA MILITARY INST**  
 LEXINGTON, Virginia 24450  
 (703) 463-6311

(3753)

**SOLAR RELATED COURSES***Advanced Thermodynamics*

Instructor: Trandel, R.S.  
 (703) 463-6308  
 Course Number: ME 408  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 4.0 hrs per week  
 Contact Hours: 56  
 Classroom: 28  
 Laboratory: 28  
 Number of Times Taught: 1  
 Average Enrollment: 13

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**Community/Junior Colleges**

**BLUE RIDGE CMTY COLLEGE**  
 WEYERS CAVE, Virginia 24486  
 (703) 234-2461

(6819)

**SOLAR RELATED COURSES***Introduction to Solar Technology*

Instructor: Chandler, Rupert P.  
 (703) 234-2461  
 Course Number: ENVR 154  
 Department: Engineering & Technologies  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Intro. to Solar Energy  
 Number of Times Taught: 3  
 Average Enrollment: 25

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**DANVILLE CMTY COLLEGE**  
 DANVILLE, Virginia 24541  
 (804) 797-3553

(3758)

**SOLAR RELATED COURSES***A Survey of Alternate Energy*

Instructor: Solomon, Michael  
 (703) 797-3553  
 Course Number: PH103  
 Department: Physics  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 12 Weeks, 3.0 hrs per week  
 Contact Hours: 36

Classroom: 25  
 Laboratory: 11  
 Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Photovoltaics

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**LORD FAIRFAX CMTY COLLEGE**  
 MIDDLETOWN, Virginia 22645  
 (703) 869-1120

(8659)

**SOLAR RELATED COURSES***Alternative Home Systems*

Instructor: Nesbitt, Patti  
 Course Number: ENV 156  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33

*Buying Solar*

Instructor: Lillis, J. W.  
 (703) 869-1120  
 Department: Continuing Education  
 Student Level: High School Graduate  
 Duration: 1 Weeks, 6.0 hrs per week  
 Contact Hours: 6  
 Classroom: 6  
 Number of Times Taught: 1  
 Average Enrollment: 20

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**NORTHERN VA CMTY COLLEGE**  
 ANNANDALE, Virginia 22003  
 (703) 323-3000

(3727)

**SOLAR RELATED COURSES***Solar Seminar & Project*

Instructor: Nasser, Kurosh H.  
 (202) 692-7591  
 Course Number: 198  
 Department: Environmental & Natural Science  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling  
 Number of Times Taught: 2  
 Average Enrollment: 17

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**SOUTHSIDE VA CHTY COLLEGE** (8661)  
 ALBERTA, Virginia 23821  
 (804) 949-7111

#### PROGRAMS AND CURRICULA

**Air Cond. Heat. & Refrig.**  
 Degree: A, C Heat. & Refrig.  
 Contact: Varyhan, C.G.  
 (804) 949-7111

Students Taking or Completing Offering:  
 Contractor, Installer-Residential  
 (Solar System), Installer-Commercial  
 (Solar System)

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**THOMAS NELSON CHTY COLLEGE** (6871)  
 HAMPTON, Virginia 23670  
 (804) 826-4800

#### SOLAR RELATED COURSES

##### Solar Energy

Instructor: Pegg, Robert  
 (804) 827-3691  
 Department: Continuing Education  
 Student Level: All levels  
 Duration: 3 Weeks, 1040 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Storage; Intro. to  
 Solar Energy; Solar System Components;  
 Solar Systems Design; Solar Systems  
 Installation; Solar Systems Maintenance  
 Number of Times Taught: 4  
 Average Enrollment: 15

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**VA WESTERN CHTY COLLEGE** (3760)  
 ROANOKE, Virginia 24015  
 (703) 344-2031

#### SOLAR RELATED COURSES

##### Solar Energy Systems Design

Instructor: Arminio, Robert  
 (703) 982-7355  
 Course Number: APCG167  
 Department: Arch. Technology  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Topics Covered Extensively: Solar  
 Systems Design

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## Colleges/Universities

**WASHINGTON ST UNIVERSITY** (3800)  
 FULLMAN, Washington 99163  
 (509) 335-3564

## SOLAR RELATED COURSES

*Thermal Systems*

Instructor: Plumb, O. A./ Englund,  
 J. S.  
 (509) 335-3226  
 Course Number: ME 435  
 Department: Mechanical Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar Collector  
 Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 1  
 Average Enrollment: 35

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**WASHINGTON, UNIVERSITY OF** (3798)  
 SEATTLE, Washington 98195  
 (206) 543-2100

## PROGRAMS AND CURRICULA

*Energy Engineering*

Degree: PhD, MS, Science in  
 Engineering  
 Contact: Decher, R.  
 (206) 543-6057  
 Students Taking or Completing Offering:  
 Researcher; Solar Engineer

## SOLAR RELATED COURSES

*Architectural Studies Options*

Instructor: Heerwagen/ Varey  
 (206) 543-4180  
 Course Number: 502/3/4/5  
 Department: Architecture  
 Credits: 6  
 Student Level: College Graduate  
 Duration: 9 Weeks, 12.0 hrs per week  
 Contact Hours: 108  
 Laboratory: 108  
 Number of Times Taught: 1  
 Average Enrollment: 11

*Des. and Use of Mech. Systems in Bldgs.*

Instructor: Heerwagen, Dean R.  
 (206) 543-2132  
 Course Number: 530  
 Department: Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Number of Times Taught: 3  
 Average Enrollment: 30

*Ener. Cons. Opp. for Bldg. Design and Use*

Instructor: Heerwagen, Dean R.  
 (206) 543-2132  
 Course Number: 530  
 Department: Architecture  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 30  
 Number of Times Taught: 3  
 Average Enrollment: 30

*Ener. Cons.-Sol. Ener. App's. in Bldgs.*

Instructor: LaVigne, A. B.  
 (206) 543-6005  
 Course Number: 498  
 Department: Architecture and Urban  
 Planning  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 9 Weeks, 4.4 hrs per week  
 Contact Hours: 40  
 Classroom: 40  
 Topics Covered Extensively: Energy  
 Conservation; Energy Storage; Heat and  
 Energy Transfer; Passive Solar  
 Technology; Domestic Hot Water; Space  
 Heating  
 Number of Times Taught: 2  
 Average Enrollment: 20

*Energy Conservation Design Studio*

Instructor: Miller, Marietta  
 (206) 543-4736  
 Course Number: 502/498  
 Department: Architecture  
 Credits: 6  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 12.0 hrs per week  
 Contact Hours: 132  
 Classroom: 132  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conservation; Energy

*Studies in the Science of the Built Environment*

Instructor: Miller, Marietta S.  
 (206) 543-4736  
 Course Number: 531  
 Department: Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 50  
 Classroom: 40  
 Topics Covered Extensively: Energy  
 Conservation

*The Promise of Solar Energy*

Instructor: Hyman, Barry  
 (206) 543-9038  
 Course Number: SM503  
 Department: Prog. in Social  
 Management of Tech.  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30

Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Law/Legislation

Number of Times Taught: 5  
Average Enrollment: 20

#### Thermal Performance of Buildings

Instructor: Heerwagen, Dean R.  
(206) 543-2132  
Course Number: 431  
Department: Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 10 Weeks, 4.0 hrs per week  
Contact Hours: 40  
Classroom: 40  
Number of Times Taught: 1  
Average Enrollment: 45

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#### Community/Junior Colleges

FORT STELLACOOM CC (5000)  
TACOMA, Washington 98498  
(206) 552-3948

#### SOLAR RELATED COURSES

##### Environmental Science

Instructor: Harding, Karen  
(206) 964-6674  
Course Number: 120  
Department: Physical Science  
Credits: 5  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 50  
Number of Times Taught: 1  
Average Enrollment: 25

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NORTH SEATTLE CC (9704)  
SEATTLE, Washington 98103  
(206) 634-4444

#### PROGRAMS AND CURRICULA

##### Heating-Solar Energy

Contact: Swenson, Don  
(206) 634-4419  
Students Taking or Completing Offering:  
Sheet Metal Worker

#### SOLAR RELATED COURSES

##### Heating-Solar Energy

Instructor: Swenson, Don  
(206) 634-4419  
Department: Engineering Technology  
Program: Heating-Solar Energy  
Curriculum: Heating-Solar Energy  
Student Level: High School Graduate  
Duration: 6 Weeks, 15.0 hrs per week  
Contact Hours: 90  
Classroom: 45  
Laboratory: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

##### Solar Energy

Instructor: Stepnich, Ivan  
(206) 634-4423  
Course Number: ECT 207  
Department: Engineering Related Technologies  
Program: Heating-Solar Energy  
Curriculum: Heating-Solar Energy  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Process Heat, Industrial; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 25

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PENINSULA COLLEGE (3786)  
FORT ANGELES, Washington 98362  
(206) 452-9077

#### SOLAR RELATED COURSES

##### Residential Solar Heating Systems

Instructor: VanDeusen, George  
(206) 452-9077  
Course Number: T.E.275  
Department: Engineering Technology  
Credits: 3  
Student Level: Adults  
Duration: 10 Weeks, 3.0 hrs per week  
Contact Hours: 30

Classroom: 30  
 Topics Covered Extensively: Energy  
 Conservation; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Home Construction;  
 Solar Systems Design; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 40

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**SPOKANE FLS CMTY COLLEGE** (9544)  
 SPOKANE, Washington 99204  
 (509) 456-2810

#### SOLAR RELATED COURSES

##### *How To Bld. Your Own Sol. H/H Heater*

Instructor: Roscher, Ted  
 (509) 456-2840  
 Department: Evening/Adult  
 Continuing Edu.)  
 Student Level: All levels  
 Duration: 10 Weeks, 3.0 hrs per week  
 Contact Hours: 30  
 Classroom: 10  
 Laboratory: 20  
 Topics Covered Extensively: Appropriate  
 Technology; Energy Conservation; Energy  
 Conversion; Energy Storage; Heat and  
 Energy Transfer; Intro. to Solar  
 Energy; Materials Research; Plumbing  
 Techniques; Sheet Metal Techniques;  
 Solar System Components; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems  
 Maintenance; Solar Systems Testing and  
 Evaluation; Domestic Hot Water  
 Number of Times Taught: 1  
 Average Enrollment: 13

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**TACOMA COMMUNITY COLLEGE** (3796)  
 TACOMA, Washington 98465  
 (206) 756-5100

#### SOLAR RELATED COURSES

##### *Energy: Past-Present-Future*

Course Number: ENGR. 120  
 Department: Engineering  
 Credits: 2  
 Student Level: Freshman or Sophomore  
 Duration: 10 Weeks, 2.0 hrs per week  
 Contact Hours: 20  
 Classroom: 20  
 Topics Covered Extensively: Alternate  
 Energy Sources; Biomass Conversion;  
 Energy Conservation; Energy Conversion;  
 Energy Storage; Heat and Energy  
 Transfer; Intro. to Solar Energy;  
 Passive Solar Technology  
 Number of Times Taught: 2

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#### Vocational/Technical Colleges

**OLYMPIA TECH CMTY COLLEGE** (5372)  
 OLYMPIA, Washington 98502  
 (206) 753-3000

#### SOLAR RELATED COURSES

##### *Solar Energy for Space Heating and Hot Water*

Instructor: Oatman, Martin  
 (206) 753-3005  
 Course Number: CONS 198  
 Department: Continuing Education  
 Student Level: College Graduate  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Intro. to Solar Energy; Solar System  
 Components; Solar Economics; Solar  
 Collector Evaluation/Design; Solar  
 Systems Design; Solar Systems  
 Installation; Solar Systems Testing and  
 Evaluation; Domestic Hot Water  
 Number of Times Taught: 1  
 Average Enrollment: 20

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**Colleges/Universities**

**WEST VIRGINIA UNIVERSITY** (3827)  
 MORGANTOWN, West Virginia 26506  
 (304) 293-0111

**SOLAR RELATED COURSES****Aerospace Problems**

Instructor: Toth, John  
 (304) 293-5339  
 Course Number: AE280  
 Department: Engineering Aerospace  
 Credits: 3  
 Student Level: All levels  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 64  
 Classroom: 48  
 Laboratory: 16  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation  
 Number of Times Taught: 4  
 Average Enrollment: 15

**Appropriate Technology Seminar**

Instructor: Devore, Paul W.  
 (304) 293-3803  
 Course Number: 390  
 Department: Technology Education  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Passive Solar Technology  
 Number of Times Taught: 2  
 Average Enrollment: 15

**Energy and Society**

Instructor: Depue, David  
 (304) 293-3803  
 Course Number: 280  
 Department: Technology Education  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Passive Solar Technology  
 Number of Times Taught: 1  
 Average Enrollment: 12

**Production Systems - Technical**

Instructor: Fytlik, Edward  
 (304) 293-3803  
 Course Number: 321  
 Department: Technology Education  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 4.0 hrs per week

Contact Hours: 60  
 Classroom: 60  
 Topics Covered Extensively: Energy Conversion; Energy Storage; Marketing/Market Analysis; Materials Research; Passive Solar Technology  
 Number of Times Taught: 10  
 Average Enrollment: 10

**Technology - History and Development**

Instructor: Pytlick, Edward  
 (304) 293-3803  
 Course Number: 400  
 Department: Technology Education  
 Credits: 3  
 Student Level: College Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 45  
 Number of Times Taught: 12  
 Average Enrollment: 12

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**Community/Junior Colleges**

**PARKERSBURG CNTY COLLEGE** (3828)  
 PARKERSBURG, West Virginia 26101  
 (304) 424-8000

**SOLAR RELATED COURSES****Spec. Top. in Air Cond/Refrigs: Solar Heat**

Instructor: Schmidt, Larry  
 (304) 424-8256  
 Course Number: ACR 299  
 Department: Air Cond./Ref. Technology  
 Credits: 4  
 Student Level: Freshman or Sophomore  
 Duration: 15 Weeks, 6.0 hrs per week  
 Contact Hours: 90  
 Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
 Number of Times Taught: 1  
 Average Enrollment: 13

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POTOMAC STATE COLLEGE  
KEYSER, West Virginia 26726  
(304) 788-3011

(3829)

SOLAR RELATED COURSES

*Engineering Design II*

Instructor: Mon, Gordon  
Course Number: II  
Department: Engineering  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 6.0 hrs per week  
Contact Hours: 90  
Classroom: 45  
Laboratory: 45  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conversion;  
Energy Storage; Intro. to Solar Energy;  
Solar Home Construction; Solar  
Collector Evaluation/Design  
Number of Times Taught: 2  
Average Enrollment: 45

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## Colleges/Universities

**LAWRENCE UNIVERSITY** (3856)  
 APPLETON, Wisconsin 54911  
 (414) 739-3681

## SOLAR RELATED COURSES

*Energy and the Environment*

Instructor: Joel, Peteranne  
 (414) 739-3681  
 Course Number: CHEM 9  
 Department: Chemistry  
 Credits: 3  
 Student Level: All levels  
 Duration: 10 Weeks, 3.5 hrs per week  
 Contact Hours: 35  
 Classroom: 35  
 Number of Times Taught: 6  
 Average Enrollment: 22

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**MARQUETTE UNIVERSITY** (3863)  
 1515 W. Wisconsin Ave.  
 MILWAUKEE, Wisconsin 53233  
 (414) 224-7700

## PROGRAMS AND CURRICULA

*Energy Engineering*

Degree: AD, Engineering  
 Contact: Jaskovski, S.V.  
 (414) 224-6820

Students Taking or Completing Offering:  
 Solar Engineer

## SOLAR RELATED COURSES

*Solar Energy Engineering, I*

Instructor: Jaskovski, S.V.  
 (414) 224-6820  
 Course Number: 128  
 Department: Elect. Eng.  
 Program or Curriculum: Energy Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 4  
 Average Enrollment: 22

*Solar Energy Engineering, II*

Instructor: Jaskovski, S.V.  
 (414) 224-6820  
 Course Number: 129  
 Department: Elect. Eng.  
 Program or Curriculum: Energy Engineering  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 14 Weeks, 3.0 hrs per week  
 Contact Hours: 42  
 Classroom: 42  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
 Number of Times Taught: 4  
 Average Enrollment: 22

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**MILWAUKEE SCH ENGINEERING** (3868)  
 MILWAUKEE, Wisconsin 53201  
 (414) 272-8720

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Mallmann, A. James  
 (414) 272-8720  
 Course Number: PH-320  
 Department: Physics  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 11 Weeks, 3.0 hrs per week  
 Contact Hours: 33  
 Classroom: 33  
 Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Wind Power, Small Systems  
 Number of Times Taught: 4  
 Average Enrollment: 20

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**NICOLET COLLEGE- TECH INST** (8919)  
RHINELANDER, Wisconsin 54501  
(715) 369-4410

## SOLAR RELATED COURSES

*Consumer Awareness-Solar Energy*

Instructor: Horstketter, John J.  
(715) 369-4424  
Course Number: 421-2144  
Department: Tech. Ed. Division  
Student Level: All levels  
Duration: 10 Weeks, 2.5 hrs per week  
Contact Hours: 25  
Classroom: 25

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 1  
Average Enrollment: 35

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**RIPON COLLEGE** (3884)  
RIPON, Wisconsin 54971  
(414) 748-8118

## SOLAR RELATED COURSES

*Topics in Physics/Energy Resources*

Instructor: Broshar, Wayne  
(414) 748-5377  
Course Number: 100  
Department: Physics  
Credits: 4  
Student Level: All levels  
Duration: 14 Weeks, 4.0 hrs per week  
Contact Hours: 56  
Classroom: 56  
Number of Times Taught: 2  
Average Enrollment: 40

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**WISCONSIN EAU CLAIRE, U OF** (3917)  
EAU CLAIRE, Wisconsin 54701  
(715) 836-0123

## SOLAR RELATED COURSES

*Solar Energy*

Instructor: Janke, Robert  
(715) 836-3718  
Course Number: 336  
Department: Geography  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System

Components; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating  
Number of Times Taught: 3  
Average Enrollment: 70

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**WISCONSIN GREEN BAY, U OF** (3899)  
GREEN BAY, Wisconsin 54302  
(414) 465-2121

## SOLAR RELATED COURSES

*Introduction to Solar Energy*

Instructor: Norman, Jack  
(414) 465-2276  
Course Number: 862/483X  
Department: Science & Environmental Change  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 8 Weeks, 5.2 hrs per week  
Contact Hours: 42

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems

Number of Times Taught: 1  
Average Enrollment: 5

*Solar and Alternate Energy Systems*

Instructor: Mehra, Anjani/ Lanz, Robert  
(414) 465-2371  
Course Number: 862/415  
Department: Interdis. - Sci. and Environ. Change  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48

Topics Covered Extensively: Alternate Energy Sources; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

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**WISCONSIN LA CROSSE, U OF** (3919)  
LA CROSSE, Wisconsin 54601  
(608) 785-8000

## SOLAR RELATED COURSES

*Energy Problems-Solar Options*

Instructor: Egbert, G. Gystrom, D.  
(608) 785-8431  
Department: University Outreach  
Physics

Student Level: All levels  
 Duration: 1 Weeks, 24.0 hrs per week  
 Topics Covered Extensively: Alternate  
 Energy Sources; Heat and Energy  
 Transfer; Intro. to Solar Energy  
 Number of Times Taught: 3  
 Average Enrollment: 40

**Introduction to Solar Energy**

Instructor: Esbert, G./ Fystrom, D.  
 (608) 785-8431

Course Number: 105  
 Department: Arts, Letters & Science  
 - Physics

Credits: 2  
 Student Level: All levels  
 Duration: 16 Weeks, 2.0 hrs per week  
 Contact Hours: 32  
 Classroom: 26  
 Laboratory: 6  
 Topics Covered Extensively: Alternate  
 Energy Sources; Heat and Energy  
 Transfer; Intro. to Solar Energy  
 Number of Times Taught: 1  
 Average Enrollment: 17

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WISCONSIN MADISON, U OF (3895)  
 MADISON, Wisconsin 53706  
 (608) 262-1234

**PROGRAMS AND CURRICULA****Solar Energy Research Program**

Degree: PhD, MS, Mech. Eng., Chem.  
 Eng.  
 Contact: Duffie, J. A.  
 (608) 263-1587

Students Taking or Completing Offering:  
 Researcher, Solar Engineer

**SOLAR RELATED COURSES****Solar Energy Technology**

Instructor: Duffie, J. A.  
 (608) 263-1587  
 Course Number: ME/CHE 567  
 Department: Engineering  
 Program or  
 Curriculum: Solar Energy Research  
 Program  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 2.0 hrs per week  
 Contact Hours: 32  
 Topics Covered Extensively: Energy  
 Storage; Heat and Energy Transfer;  
 Solar System Components; Solar  
 Economics; Solar Collector  
 Evaluation/Design; Solar Systems Design  
 Number of Times Taught: 10  
 Average Enrollment: 40

**Solar Radiation and Wind Energy**

Instructor: Stearns, Charles R.  
 (608) 262-0780  
 Course Number: 330  
 Department: L and S Meteorology  
 Credits: 3

Student Level: Junior or Senior  
 Duration: 16 Weeks, 3.0 hrs per week  
 Contact Hours: 48  
 Classroom: 48  
 Topics Covered Extensively: Alternate  
 Energy Sources; Heat and Energy  
 Transfer; Intro. to Solar Energy; Wind  
 Power, Small Systems  
 Number of Times Taught: 2  
 Average Enrollment: 21

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WISCONSIN MILWAUKEE, U OF (3896)  
 MILWAUKEE, Wisconsin 53201  
 (414) 963-4444

**PROGRAMS AND CURRICULA****Solar Architecture**

Degree: Architecture  
 Contact: Catanese, Anthony James  
 (414) 983-4016

Students Taking or Completing Offering:  
 Architect

**SOLAR RELATED COURSES****Energy Conscious Design**

Instructor: Dent, S./ Ollwang, J./  
 Schade, J.  
 (414) 963-5650

Course Number: 470/770  
 Department: Architecture and Urban  
 Planning

Program or  
 Curriculum: Solar Architecture  
 Credits: 9  
 Student Level: Junior or Senior  
 Duration: 16 Weeks, 16.0 hrs per week  
 Contact Hours: 256  
 Classroom: 52  
 Laboratory: 204

Topics Covered Extensively: Energy  
 Conservation; Intro. to Solar Energy;  
 Passive Solar Technology; Solar System  
 Components; Solar Systems Design; Space  
 Heating; Space Cooling  
 Number of Times Taught: 6  
 Average Enrollment: 10

**Energy Design Fundamentals**

Instructor: Shada, John  
 (414) 963-4014  
 Course Number: ARCH 497  
 Department: Architecture  
 Program or  
 Curriculum: Solar Architecture  
 Credits: 3  
 Student Level: Junior or Senior  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Topics Covered Extensively: Alternate  
 Energy Sources; Appropriate Technology;  
 Energy Conservation; Energy Storage;  
 Intro. to Solar Energy; Passive Solar  
 Technology; Solar Economics; Solar Home  
 Construction; Solar Systems Design;  
 Domestic Hot Water; Space Heating

Number of Times Taught: 3  
Average Enrollment: 30

**Energy Design Fundamentals II**

Instructor: Dent, Stephen D.  
(414) 963-5650.  
Course Number: 497  
Department: Architecture and Urban Planning

Program or Curriculum: Solar Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

Number of Times Taught: 2  
Average Enrollment: 35

**Opt. in Energy Conscious Design**

Instructor: Schade, John  
(414) 963-4014

Course Number: ARC470/770  
Department: Architecture

Program or Curriculum: Solar Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 9.0 hrs per week  
Contact Hours: 135

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 3  
Average Enrollment: 30

**Solar Dwelling Design**

Instructor: Dent, Stephen D.  
(414) 963-5650

Course Number: 497  
Department: Architecture and Urban Planning

Program or Curriculum: Solar Architecture  
Credits: 3  
Student Level: Junior or Senior  
Duration: 4 Weeks, 10.0 hrs per week  
Contact Hours: 40

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Space Heating

Number of Times Taught: 1  
Average Enrollment: 25

**Solar Engineering**

Instructor: Neusen, K.F.  
(414) 963-5001

Course Number: 330-436

Department: Engr. & Appl. Sci./Energetics

Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 40  
Laboratory: 5

Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Space Heating

Number of Times Taught: 2  
Average Enrollment: 18

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WISCONSIN OSHKOSH, U OF  
OSHKOSH, Wisconsin 54901  
(414) 424-1234

(9630)

**SOLAR RELATED COURSES****Solar Energy**

Instructor: Passow, M. W.  
(414) 424-4430

Course Number: 82-755  
Department: Physics  
Credits: 3  
Student Level: College Graduate  
Duration: 3 Weeks, 20.0 hrs per week  
Contact Hours: 60  
Classroom: 30  
Laboratory: 30

Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 2  
Average Enrollment: 16

**Solar Heating**

Instructor: Passow, M. W.  
(414) 424-4430

Course Number: 82-355  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 14 Weeks, 3.0 hrs per week  
Contact Hours: 42  
Classroom: 42

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

Number of Times Taught: 1  
Average Enrollment: 18



**Solar Home Heating**

Instructor: Passow, M. W.  
(414) 424-4430  
Department: Physics-Continuing Ed.  
Student Level: All levels  
Duration: 4 Weeks, 3.0 hrs per week  
Contact Hours: 12  
Classroom: 12  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Economics; Solar Home  
Construction; Solar Collector;  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating.  
Number of Times Taught: 2  
Average Enrollment: 75

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**WISCONSIN PARKSIDE, U OF**  
KENOSHA, Wisconsin 53141  
(414) 553-2121

(5015)

**SOLAR RELATED COURSES****Energy Alternatives**

Instructor: Firebaugh, Morris  
(414) 553-2465  
Course Number: 67-140  
Department: Physics  
Credits: 1  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Classroom: 15  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Intro. to Solar Energy  
Number of Times Taught: 6  
Average Enrollment: 25

\*\*\*\*\*

**WISCONSIN PLATTEVILLE, U OF**  
PLATTEVILLE, Wisconsin 53818  
(608) 342-1234

(3921)

**SOLAR RELATED COURSES****Solar Heating Applications**

Instructor: Riedler, Ross A.  
(808) 342-1721  
Course Number: ME 460  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar System Components;  
Solar Collector; Evaluation/Design;  
Solar Systems Design; Domestic Hot  
Water; Space Heating

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**WISCONSIN STEVENS PNT, U OF**  
STEVENS POINT, Wisconsin 54481  
(715) 346-0123

(3924)

**SOLAR RELATED COURSES****Energy in Today's World**

Instructor: Taylor, Allen G.  
(715) 346-2791  
Course Number: 100  
Department: Physics  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 32  
Laboratory: 32  
Number of Times Taught: 1  
Average Enrollment: 22

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**WISCONSIN STOUT, U OF**  
MENOMONIE, Wisconsin 54751  
(715) 232-0123

(3915)

**SOLAR RELATED COURSES****Alternative Energy**

Instructor: Rhoads, Charles  
(714) 232-1384  
Course Number: 110-596  
Department: Applied Science -  
Energy & Trans.  
Credits: 2  
Student Level: Junior or Senior  
Duration: 2 Weeks, 18.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Alternate  
Energy Sources; Intro. to Solar Energy;  
Solar System Components; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water; Space Heating; Wind Power, Small  
Systems  
Number of Times Taught: 1  
Average Enrollment: 25

**Energy in Industry**

Instructor: Rhoads, Charles  
(715) 232-1156  
Course Number: 110-101  
Department: Industry and Technology  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 9 Weeks, 6.0 hrs per week  
Contact Hours: 54  
Classroom: 27  
Laboratory: 27  
Number of Times Taught: 20  
Average Enrollment: ~50

\*\*\*\*\*

WISCONSIN WHITEWATER, U OF  
WHITEWATER, Wisconsin 53190  
(414) 472-1234

(3926)

## SOLAR RELATED COURSES

*Residential Solar Heating*

Instructor: Shinnars, Carl W.  
(414) 473-2247  
Course Number: 82/490-690  
Department: Physics  
Credits: 3  
Student Level: College Graduate  
Duration: 2 Weeks, 30.0 hrs per week  
Contact Hours: 60  
Classroom: 20  
Laboratory: 40  
Topics Covered Extensively: Solar  
Systems Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 1  
Average Enrollment: 25

*Solar Energy Applications*

Instructor: Shinnars, Carl  
(414) 472-1075  
Course Number: 82460  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 17 Weeks, 3.0 hrs per week  
Contact Hours: 51  
Classroom: 51  
Topics Covered Extensively: Biomass  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating; Wind Power, Small Systems  
Number of Times Taught: 6  
Average Enrollment: 40

*Solar Home Heating*

Instructor: Shinnars, Carl W.  
(414) 472-1075  
Department: Physics  
Student Level: High School Graduate  
Duration: 6 Weeks, 3.0 hrs per week  
Contact Hours: 18  
Classroom: 15  
Laboratory: 3  
Topics Covered Extensively: Solar  
Systems Design; Domestic Hot Water;  
Space Heating  
Number of Times Taught: 1  
Average Enrollment: 35

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## Vocational/Technical Colleges

DISTRICT ONE TECH INST  
EAU CLAIRE, Wisconsin 54701  
(715) 836-3975

(5304)

## SOLAR RELATED COURSES

*Alternate Energy Systems*

Instructor: Dougherty, Thomas A.  
(705) 836-2828  
Department: Air Conditioning  
Technology  
Credits: 3  
Student Level: High School Graduate  
Duration: 18 Weeks, 4.0 hrs per week  
Contact Hours: 72  
Classroom: 36  
Laboratory: 36  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation;  
Energy Conversion; Energy Storage; Heat  
and Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Economics;  
Solar Home Construction; Solar  
Law/Legislation; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Solar Systems Installation;  
Solar Systems Maintenance; Domestic Hot  
Water; Space Heating; Space Cooling

*Solar Energy*

Department: Evening College  
Student Level: All levels  
Duration: 6 Weeks, 2.0 hrs per week  
Contact Hours: 12  
Topics Covered Extensively: Energy  
Conversion; Energy Storage; Heat and  
Energy Transfer; Intro. to Solar  
Energy; Passive Solar Technology; Solar  
System Components; Solar Collector  
Evaluation/Design; Solar Systems Design

\*\*\*\*\*

MILWAUKEE AREA TECH C  
MILWAUKEE, Wisconsin 53203  
(414) 278-6600

(3866)

## SOLAR RELATED COURSES

\*Ener. Cons. &amp; Alt. Ener. Sources.

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MORaine PARK TECH INST  
FOND DU LAC, Wisconsin 54935  
(414) 922-8611

(9256)

## PROGRAMS AND CURRICULA

*Solar Energy*

Contact: Pasch, Rodney  
(414) 922-8611

Students Taking or Completing Offering:  
Contractor, Do-it-yourself Homeowner,  
Electrician, Plumber, Sheet Metal  
Worker

## SOLAR RELATED COURSES

*Solar App. for Construction Industry*

Instructor: Pasch, Rodney  
(414) 922-8611  
Course Number: 401-479  
Department: Trade and Technical  
Program or Curriculum: Solar Energy  
Credits: 2  
Student Level: All levels  
Duration: 1 Weeks, 6.0 hrs per week  
Contact Hours: 6  
Topics Covered Extensively: Intro. to Solar Energy; Solar Home Construction  
Number of Times Taught: 5  
Average Enrollment: 80

*Solar Energy - Air Handling Systems*

Instructor: Pasch, R.  
(414) 922-8611  
Course Number: 401-483  
Department: Trade and Technical  
Program or Curriculum: Solar Energy  
Credits: 5  
Student Level: All levels  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Classroom: 20  
Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Space Heating  
Number of Times Taught: 2  
Average Enrollment: 20

*Solar Energy for Builders*

Instructor: Pasch, R.  
(414) 922-8611  
Course Number: 401-425  
Department: Trade and Technical  
Program or Curriculum: Solar Energy  
Credits: 3  
Student Level: All levels  
Duration: 2 Weeks, 5.0 hrs per week  
Contact Hours: 10  
Topics Covered Extensively: Alternate Energy Sources  
Number of Times Taught: 1  
Average Enrollment: 40

*Solar Energy Seminar*

Instructor: Pasch, R.  
(414) 922-8611  
Course Number: 401-482  
Department: Trade and Technical  
Program or Curriculum: Solar Energy  
Credits: 1  
Student Level: All levels  
Duration: 1 Weeks, 4.0 hrs per week  
Contact Hours: 4  
Classroom: 4  
Topics Covered Extensively: Alternate Energy Sources  
Number of Times Taught: 2  
Average Enrollment: 100

*Solar Heat & Wind*

Instructor: Pasch, Rodney  
(414) 922-8611  
Course Number: 401-480  
Department: Trade & Technical  
Program or Curriculum: Solar Energy  
Credits: 5  
Student Level: All levels  
Duration: 2 Weeks, 10.0 hrs per week  
Contact Hours: 20  
Topics Covered Extensively: Space Heating; Wind Power, Small Systems  
Number of Times Taught: 5  
Average Enrollment: 17

*Wind Energy App.*

Instructor: Pasch, R.  
(414) 922-8611  
Course Number: 401-484  
Department: Trade and Technical  
Program or Curriculum: Solar Energy  
Credits: 2  
Student Level: All levels  
Duration: 1 Weeks, 6.0 hrs per week  
Contact Hours: 6  
Topics Covered Extensively: Elec'l Generation, Small Scale; Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 40

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NORTH CENTRAL TECH INST  
WUSAU, Wisconsin 54401  
(715) 675-3331

(5387)

## SOLAR RELATED COURSES

*Principles of Solar*

Instructor: Beckman, Ronald  
(715) 675-3331  
Course Number: 614  
Department: Technical Education  
Credits: 3  
Student Level: All levels  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 54  
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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Wisconsin

Solar Energy Research Institute

WAUKESHA COUNTY TECH INST  
PEWAUKEE, Wisconsin 53072  
(414) 691-3200

(9258)

SOLAR RELATED COURSES

Solar Energy

Student Level: All levels  
Contact Hours: 12  
Classroom: 8  
Laboratory: 4  
Number of Times Taught: 2  
Average Enrollment: 37

\*\*\*\*\*

WESTERN WIS TECH INST  
LA CROSSE, Wisconsin 54601  
(608) 782-6238

(3840)

SOLAR RELATED COURSES

Solar Energy for Homes

Instructor: Witt, Don  
(608) 785-9200  
Course Number: 601/164  
Department: Trade & Industry  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Energy  
Storage; Heat and Energy Transfer;  
Solar System Components; Solar  
Economics; Solar Collector  
Evaluation/Design; Solar System  
Design; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 25

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WISCONSIN INDIAN VOCATIONAL, TECH.,  
AND ADULT EDUCATION  
600 North 21 Street  
Superior, Wisconsin 54880

(90140)

PROGRAMS AND CURRICULA

Facility Engineering Technician

Degree: AD, Engineering  
Contact: Bergstrom, Robert  
(715) 394-6677

Students Taking or Completing Offering:  
Solar Technician

SOLAR RELATED COURSES

Evaluating Alternate Energy Sources

Instructor: Ziesler, Anton  
(715) 394-6677  
Department: Technical Institute  
Programmer:  
Curriculum: Facility Engineering  
Technician  
Credits: 6  
Student Level: High School Graduate

Duration: 18 Weeks, 6.0 hrs per week  
Contact Hours: 108  
Classroom: 54  
Laboratory: 54

Topics Covered Extensively: Alternate  
Energy Sources; Appropriate Technology;  
Biomass Conversion; Energy  
Conservation; Energy Conversion; Energy  
Storage; Intro. to Solar Energy;  
Passive Solar Technology;  
Photovoltaics; Solar System Components;  
Solar Economics; Solar Systems  
Installation; Solar Systems  
Maintenance; Solar Systems Testing and  
Evaluation; Wind Power, Small Systems

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## Colleges/Universities

WYOMING UNIVERSITY OF  
LARAMIE, Wyoming 82071  
(307) 766-4121 (3932)

## SOLAR RELATED COURSES

## Alternative Sources of Energy

Instructor: Hill, John  
(307) 766-4224  
Course Number: CE692M  
Department: Civil Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 35  
Laboratory: 10  
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
Number of Times Taught: 3  
Average Enrollment: 10

## Atmos. Sci. Prob.: Atmospheric Radiation

Instructor: Veal, Donald L.  
(307) 766-3111  
Course Number: 890M  
Department: Engineering, Atmospheric Science  
Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 3.0 hrs per week  
Contact Hours: 39  
Classroom: 39  
Number of Times Taught: 2  
Average Enrollment: 3

## Conservation of Natural Resources

Instructor: Beiswenger, Ron  
(307) 766-4204  
Course Number: 6710  
Department: Geography  
Credits: 3  
Student Level: Junior or Senior  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 54  
Topics Covered Extensively: Appropriate Technology  
Number of Times Taught: 14  
Average Enrollment: 80

## Energy Activities for Teachers I

Instructor: Sindt, Vince  
(307) 766-4384  
Course Number: NS 413M  
Department: Nat. Sci.  
Credits: 1  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems

Number of Times Taught: 5  
Average Enrollment: 20

## Energy Activities for Teachers II

Instructor: Sindt, Vince  
(307) 766-4384  
Course Number: NS 413M  
Department: Nat. Sci.  
Credits: 1  
Student Level: Junior or Senior  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems  
Number of Times Taught: 5  
Average Enrollment: 20

## Energy Conversion

Instructor: Amr, Abdel-Rahman  
(307) 766-4111  
Course Number: 602  
Department: Mechanical Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Classroom: 45  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Solar System Components  
Number of Times Taught: 4  
Average Enrollment: 20

## Environmental Education for Teachers

Instructor: Beiswenger, Ron  
(307) 766-4204  
Course Number: 6710  
Department: Ed. Curriculum and Instruction  
Credits: 3  
Student Level: Junior or Senior  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 72  
Classroom: 36  
Laboratory: 36  
Number of Times Taught: 14  
Average Enrollment: 75

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## Community/Junior Colleges



## CASPER COLLEGE

(3928)

CASPER, Wyoming 82601  
(307) 268-2110

## SOLAR RELATED COURSES

## Residential Energy Conservation

Instructor: Hartman, Paul  
(307) 268-2604  
Course Number: 73-070  
Department: Construction Ed.  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 1.5 hrs per week  
Contact Hours: 15  
Classroom: 15  
Number of Times Taught: 2  
Average Enrollment: 6

## CENTRAL WYOMING COLLEGE

(7289)

RIVERTON, Wyoming 82501  
(307) 856-9291

## SOLAR RELATED COURSES

## Solar Energy

Instructor: Hansen, M. R.  
(307) 856-9291  
Course Number: ENSR 240  
Department: Life & Physical  
Sciences  
Credits: 1  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 0  
Laboratory: 48  
Topics Covered Extensively: Intro. to  
Solar Energy; Solar Collector  
Evaluation/Design; Solar Systems  
Testing and Evaluation; Domestic Hot  
Water  
Number of Times Taught: 1  
Average Enrollment: 6

## LARAMIE CO CMTY COLLEGE

(9259)

CHEYENNE, Wyoming 82001  
(307) 634-5853

## SOLAR RELATED COURSES

## Energy and Man

Instructor: Edwards, William C.  
Course Number: SCI103  
Department: Science  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 18 Weeks, 3.0 hrs per week  
Contact Hours: 54  
Classroom: 40  
Topics Covered Extensively: Alternate  
Energy Sources; Energy Conservation  
Number of Times Taught: 2  
Average Enrollment: 12

## NORTHWEST CMTY COLLEGE

(3931)

FOWELL, Wyoming 82435  
(307) 754-6111

## SOLAR RELATED COURSES

## Energy &amp; the Future

Instructor: Eager, John  
(307) 754-6957  
Course Number: 31-170  
Department: General Science  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 17 Weeks, 2.0 hrs per week  
Contact Hours: 34  
Classroom: 34  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Heat  
and Energy Transfer  
Number of Times Taught: 6  
Average Enrollment: 20

## Energy from the Sun

Instructor: Eager, John  
(307) 754-6957  
Course Number: 34-280  
Department: Physics  
Credits: 2  
Student Level: All levels  
Duration: 17 Weeks, 2.0 hrs per week  
Contact Hours: 34  
Classroom: 24  
Laboratory: 10  
Topics Covered Extensively: Energy  
Conservation; Energy Conversion; Energy  
Storage; Heat and Energy Transfer  
Intro. to Solar Energy; Passive Solar  
Technology; Solar System Components;  
Solar Economics; Solar Collector  
Evaluation/Design; Solar Systems  
Design; Domestic Hot Water; Space  
Heating  
Number of Times Taught: 1  
Average Enrollment: 20

## SHERIDAN COLLEGE

(3930)

SHERIDAN, Wyoming 82801  
(307) 674-6446

## PROGRAMS AND CURRICULUM

## Solar Energy Technology

Degree: AD Engineering Technology -  
Solar Option  
Contact: Ohm, Kenneth R.  
(307) 674-6446  
Students Taking or Completing Offering:  
Installer-Residential (Solar System),  
Installer-Commercial (Solar Systems),  
Solar Technician, Do-it-yourself  
Homeowner

**SOLAR RELATED COURSES****Energy Storage**

Course Number: 152  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Energy Storage; Photovoltaics; Wind Power, Small Systems

**Installation and Service - Solar System**

Course Number: 158  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

**Intro. to Solar Heat and Cool.**

Course Number: 150  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Intro. to Solar Energy; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Space Cooling

**Solar Collectors**

Course Number: 151  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation

**Solar Energy Fundamentals**

Instructor: Ohm, Kenneth R.  
 (307) 674-6446  
 Course Number: 19-190  
 Department: Career/Tech  
 Program or Curriculum: Solar Energy Technology  
 Credits: 3  
 Student Level: Freshman or Sophomore  
 Duration: 16 Weeks, 4.0 hrs per week  
 Contact Hours: 60  
 Classroom: 48  
 Laboratory: 12  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Process Heat, Industrial; Space

Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 2  
 Average Enrollment: 35

**Solar Heating and Cooling Systems**

Course Number: 155  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Energy Storage; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

**Wind Systems**

Course Number: 153  
 Program or Curriculum: Solar Energy Technology  
 Student Level: Freshman or Sophomore  
 Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems

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**WESTERN WYO CHTY COLLEGE**

(3933)

ROCK SPRINGS, Wyoming 82901  
 (307) 382-2121

**SOLAR RELATED COURSES****Solar Home Planning**

Instructor: Bowles, Marvin  
 (307) 382-2121  
 Course Number: 52-299  
 Department: Building Trades  
 Credits: 3  
 Student Level: High School Graduate  
 Duration: 15 Weeks, 3.0 hrs per week  
 Contact Hours: 45  
 Classroom: 30  
 Laboratory: 15  
 Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating; Wind Power, Small Systems  
 Number of Times Taught: 4  
 Average Enrollment: 35

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